

MANUFACTURERS' RECORD

A
WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

CONTENTS.

EDITORIAL.

The South in 1890	5
Henry W. Grady	6
Economic Development of Southern Towns	6
Malice, Stupidity or Carelessness—Which?	6
Bessemer Iron in North Carolina	7
To the Southern Press	7
The South and Cotton Manufacturing	7
What is the Matter with Clark County, Kentucky?	8
Editorial Short Notes	5, 6, 37

CONSTRUCTION DEPARTMENT.

Full particulars regarding all industrial enterprises organized in the South during the past week	34, 35, 36
Building Notes	36
Machinery Wanted	36
Burned	36

FINANCIAL DEPARTMENT.

New Banks	32
Bonds, Stocks and other notes	32

NOTES AND CORRESPONDENCE.

Railroad Construction in 1889	8
Yazoo Delta Lands	9
A Vast Property	9
Wants to Make Southern Investment	9
Prosperous and Progressive Anderson	9
Chattanooga Letter	10
Southern Securities and Investments	10
Iron Houses	31
The Land of the Sky	37

RAILROAD DEPARTMENT.

Railroad Building in 1889	31
The Greatest Scheme of the Age	31
Railroad Construction Notes	31

INDUSTRIAL NOTES.

Trade Notes	41, 46
Geared Three-Cylinder Power Pump	57
The Scientific Grinding Mill	57
Iron Market Report	58
Eastern Lumber Markets	62

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Classified Index of Advertisers.

[For "ALPHABETICAL INDEX" WITH PAGES, SEE PAGE 63.]

- Air Compressors.**
Ingersoll-Sergeant Rock Drill Co.
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(See R. R. Equipment
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plies.**
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chine Co.
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tric Co.
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ply Co.
Wenstrom So. Electric
Mfg. Co.
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and Motors.**
Thomson-Houston Elec-
tric Co.
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Daft Electric Light Co.
- Electrical Engi-
neers.**
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plies.**
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ply Co.
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sene.)**
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(See Mining Machinery.)
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(See also Second Hand.)
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Lowe & Tucker.
Russell Wheel & Found-
ry Co.
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(See also Trunks.)
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(See also Woodworking
Machinery.)
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- Scroll Saws.**
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ing Machinery.**
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Tool Co.
Stiles & Parker Press Co.
- Shingle and Stave
Machinery.**
(See Woodworking Ma-
chinery.)
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Pulsometer Stm. P. Co.
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Co.
Geo. F. Blake Mfg. Co.
The A. S. Cameron Stm.
Pump Works.
Southwark Foundry &
Machine Co.
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The Smith & Vaile Co.
Buffalo Stm. Pump Co.
The J. H. McGowan Co.
Rife's Hydraulic Engine
Mfg. Co.
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Boggs & Clarke.
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The Stratton Separ. Co.
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Chester Steel Cast'g Co.
Thos. Devlin & Co.
- Steel Rails.**
(See also R. R. Equip'm't
and Supplies.)
Penna. Steel Co.
- Tackle Blocks.**
Thos. Devlin & Co.
Fulton Iron & Eng. Wks.
- Testing Machines**
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Riehle Bros.
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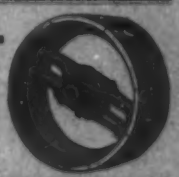
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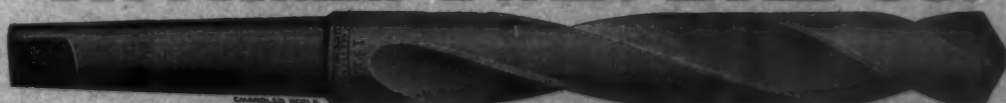
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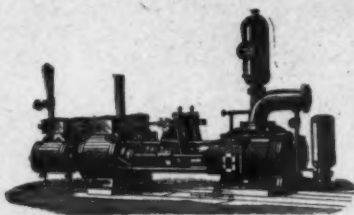
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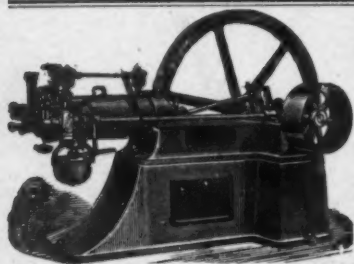
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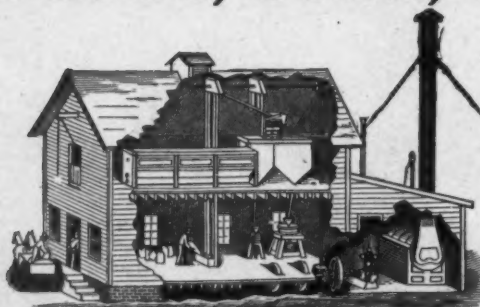
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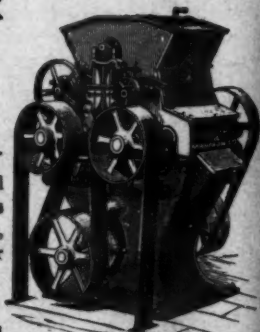


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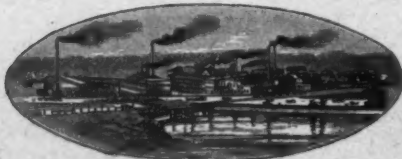
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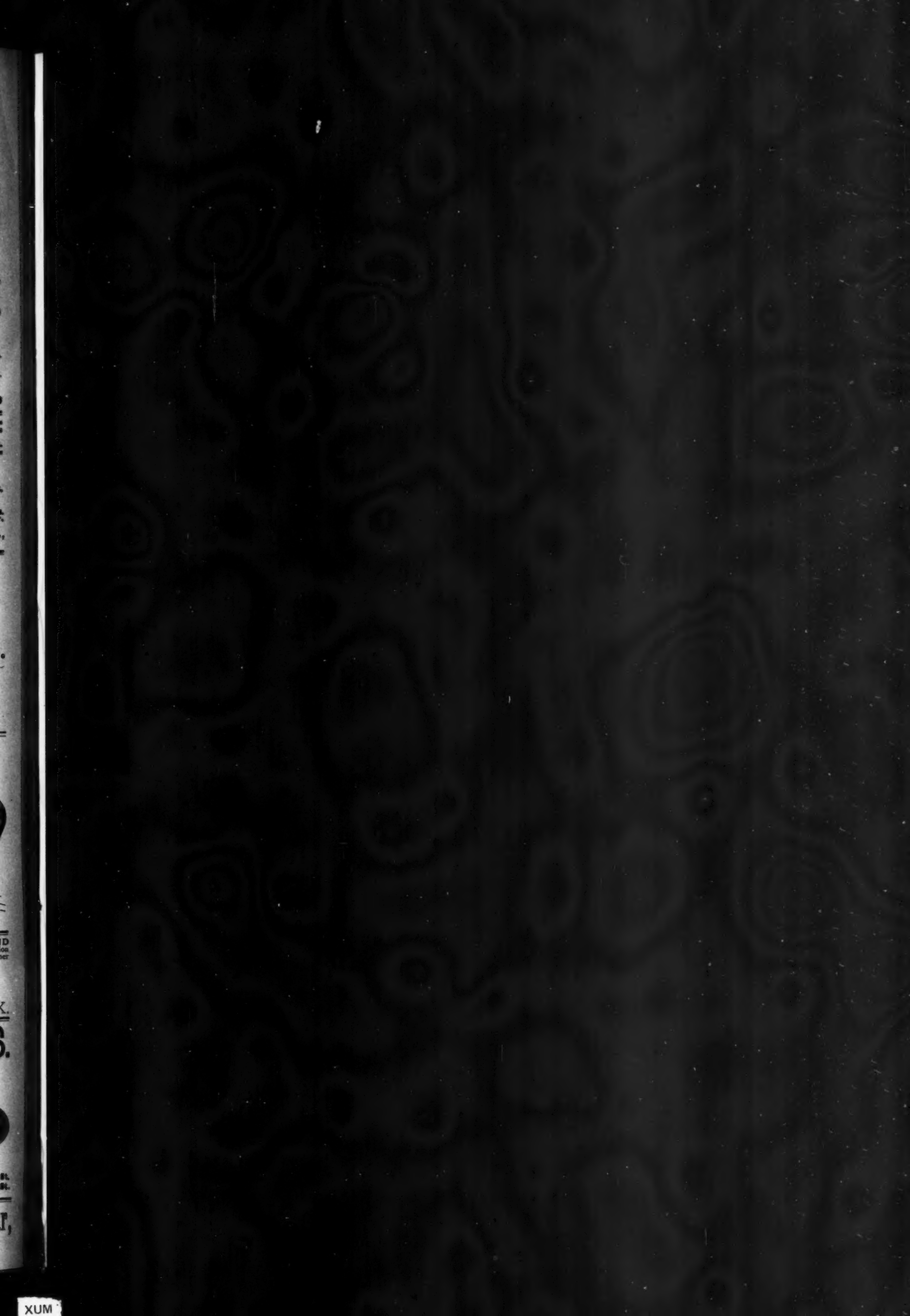
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A Southern Industrial, Railroad and Financial Newspaper.

VOL. XVI. No. 22.
WEEKLY.

BALTIMORE, JANUARY 4, 1890.

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BALTIMORE, JANUARY 4, 1890.

ONE of the most wonderful discoveries of the age, destined to prove of untold value to the South, is that of the vast phosphate deposits in Florida, as described in last week's MANUFACTURERS' RECORD. Judged by all reports, that seem thoroughly reliable, these deposits are of such vast magnitude and richness as to far overshadow the phosphate beds of South Carolina. It is difficult, even taking the most conservative reports, to estimate the immense value of these discoveries. While Florida will be many millions of dollars richer, the whole South will reap the benefits.

A GOOD illustration of how some people fail to grasp the reality of the South's progress, and thus lose the chance for big profits, is found in the following item from the Danville (Ky.) Advocate:

A representative of the Advocate had a conversation with a gentleman who has made more money than probably any one else at Middlesborough. He said: "I tried my best to get some of your Danville people interested, but could not. I recall an instance of when I was talking to a bank official of your city whom I was trying to get to go in a \$10,000 purchase with some of us. We only needed \$2,500 to make up the deal. The banker said he did not believe there was anything in Middlesborough. I then asked him if he had ever investigated the place, and he said no. At that time a man came in the bank with two white-legged chickens and broke up my conversation with the official, who was, I think, a little bored with me any way, and I dropped the subject. To-day that property is worth more than \$100,000.

We have heard of a good many other cases on this order.

The South in 1890.

The new year opens with the South enjoying greater activity and with brighter prospects for the future than this section has ever known before. The grand triumphal march of progress has led the South up to a high elevation, from which it can look forward to the brilliant prospects ahead.

The ten years that have just closed witnessed one of the most heroic struggles ever made by any nation to develop its own resources and to lay a solid foundation for a prosperous future. The work was hard. Difficulties innumerable had to be overcome, and in 1880 no one would have dared to predict that before 1889 had ended the South would hold such a commanding position as it now does. The history of these ten years is one that the South must ever be proud of. In the face of the distrust of outside capitalists in the desirability of investments in the South; despite the persistent claims of leading iron makers that the South could never become a great iron producer; of the theoretical experts, who insisted that the South could never compete with New England in the manufacture of cotton goods—notwithstanding all these things, and the poverty of her people as a whole, the South made a record for progress from 1880 to 1889 that has been the wonder of the world.

In 1880 the South had but few furnaces and few cotton mills; rolling mills and car works were few and far between; its railroad mileage was very limited; capitalists looked with distrust upon all manner of Southern securities; the richest mineral and timber lands in the world went a begging; the wonderful possibilities of the early fruit and vegetable business were scarcely dreamed of; but few large winter resort hotels were in existence, and comparatively few Northern people thought of going South to spend their winters; for its foodstuffs and its manufactured goods of all kinds the South was mainly dependent upon the North and West, and nearly all of the

cotton-crop money went to pay for these necessities.

Such was the South in 1880.

In 1890 the whole South thrills with the activity of industrial life. Furnaces by the score are daily pouring forth their vast product of iron that is enriching the nation; rolling mills, car works, machine shops and foundries all over the South are converting the crude material into the finished product; cotton mills by the hundred are furnishing employment to thousands of hitherto idle hands, and keeping at home the profits of manufacturing the cotton where it is raised; dozens of industrial towns have sprung into existence where open fields or forests were ten years ago, and old towns have grown into bustling centers of activity; railroads have doubled their mileage, and vastly more than doubled their facilities for carrying passengers and freight; mineral and timber lands are being hunted for with eager earnestness by the leading capitalists of Europe and America; the golden stream of Northern money has been turned from the West, and is now flowing in an ever-widening and deepening channel Southward; the finest hotels in America now invite the Northern pleasure and health-seekers who go by the thousands South to escape the rigors of Northern winters; immigration instead of emigration is now seen throughout the South, and where there was distrust there is now an avidity for Southern securities in every money center in the country; the early fruit and trucking business has grown until it furnishes a vast traffic to the railroads and annually brings millions of dollars to this section, and the South is now nearly self-supporting in the matter of foodstuffs, and is rapidly making its own manufactured goods of all kinds—its cars, its locomotives its furniture, its hardware, its agricultural implements and other home and business supplies.

Such is the South in 1890!

These ten years have marked but the beginning of the South's ad-

vancement. What it has already accomplished is but the foundation work, and it is now in a position to press forward and do in the next five years far more than what it has done in the last ten.

MR. JULIAN S. CARR, one of the very foremost men of North Carolina, and the one who, as president of the Blackwell Durham Tobacco Co., has made that company such a phenomenal success, has made a wise move in becoming interested in the North Carolina Iron & Steel Co., of Greensboro. Mr. Carr, realizing that North Carolina is destined to become a great iron and steel producer, has wisely decided to take an active part in the establishment of the first great enterprise designed to develop the iron interests of that State. Hence he has, we learn, taken a liberal share of stock in the company, and, at a meeting of the directors last week, was elected vice-president.

"We can make iron in Alabama, send it to Pennsylvania, and sell it there at \$5 a ton cheaper than they can make it," was the deliberate utterance of one of the most eminent Southern engineers the other day to a representative of Bradstreet's. When asked further whether iron could be made anywhere cheaper than in Northern Alabama, the gentleman said without hesitation that only one other region anywhere had the advantage of the South, and it was doubtful whether even that could do better. Possibly the Cleveland district in England can produce a shade cheaper than Alabama, but he was not sure of it. Other things go to indicate that this enthusiastic conclusion has some warrant. One is the constant and increasing sale of Southern iron in the Northern and Eastern States. Another is the removal of much Pennsylvania and other Northern iron-making capital to the South.—Bradstreet's.

The MANUFACTURERS' RECORD has for some years been telling something like this, though possibly not putting the margin of difference in cost quite so heavy. Not Alabama only, but Kentucky, North Carolina, Virginia and Tennessee can manufacture iron at prices that will astonish Pennsylvania.

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Henry W. Grady.

The echoes of the obsequies of Jefferson Davis had scarcely ceased to sound when again the South was called to mourn the loss of a great leader. The message from Atlanta, "Henry W. Grady died at 3.40 this morning," was a shock to the entire country, for the name of that patriotic, brilliant and eloquent Southern orator was honored all through the land; and while in the South he was universally beloved, his personal friends elsewhere were numbered by tens of thousands. Thus within the last month of a decade of momentous events in its history the South has lost the veteran chieftain in whom was embodied the memories of a past epoch, and the glorious young leader of this era of magnificent progress.

It is not for us to sketch the career or to write the eulogy of Henry W. Grady. These have been fully and wisely done by those best qualified by long continued intimate association with the man, to do him justice. But as the earnest advocate and exponent of that South he loved so well and served so faithfully, we would contribute a few leaves to the chaplet of laurel a grateful people are weaving in his honor.

When early in 1881 the writer first met Mr. Grady, the brave citizens of Atlanta were staggering under the burden of a self-imposed, novel enterprise, that day by day assumed proportions far greater than most of them had foreseen. That exposition, with all the wonderful results that followed it, would never have reached the magnitude it did, and possibly might have completely collapsed, had not Director-General Kimball been enthusiastically sustained in all his plans by Henry W. Grady. And when at last all difficulties were removed, and the work of gathering and displaying the South's natural resources was perfected, no other man rejoiced more heartily in the result, and no other found in it such inspiration. To Mr. Grady's quick perception these displays from the forests, the mountains, the ore fields and the farms were so many signs and tokens of a coming time when his beloved South should resound with the music of many industries, and its desolate places be filled with happy homes and prosperous communities. He saw as with a prophet's vision what would be, and he determined to hasten by tongue and pen the day of its coming. Among the after-dinner addresses he made during those eventful months was one to a company of Northern and Southern men, that was the prelude to that splendid effort at the Pilgrim's banquet in New York, which gave him national fame.

After the exposition Mr. Grady entered enthusiastically upon what has proved to be his life work. He was determined that the whole South should attain as speedily as possible the highest development, and also that the patriotism of its people,

their renewed love for the Union, their fraternal affection for their fellow-citizens of all other sections, should be fully recognized.

For these he labored in season and out of season, bringing to his service all the rich resources of his intellect, all the powers of his genius. From that time on, the Atlanta Constitution, always ably conducted, grew in breadth and influence. The frequent sarcasms and the sometimes rollicking humor of the editorials could not hide the earnest purpose that inspired them. There was much discussion of practical matters, such as intensive farming, diversified agriculture, the importance of small industries, the need for economy in petty as well as in great things. Thus the Constitution soon grew to be a powerful agency for the industrial advancement of Georgia and the neighboring States.

A young, ardent man, Mr. Grady sympathized heartily with the aspirations and ambitions of Southern youth. And "as face answereth to face in a glass, so the heart of man to man." The young men everywhere rallied to his call, and followed his leadership. Hundreds are now prospering in various industrial callings, who but for him would have been vainly trying to make a living in the over-crowded professions. Other hundreds are contentedly following the peaceful pursuit of agriculture and reaping the reward of diligent and intelligent labor, who, but for his teachings, would have been swelling the lists of the unemployed in our larger cities. A hard worker himself, he exalted the dignity of labor both by precept and example. Loving his city, his State, his section, his country, he was ever a living illustration of the truth that the more devoted an American is to his own home-place the greater his love for the country at large.

While the whole land will feel bereaved because of the death of this gifted man, the New South, to which the latter years of his life have been cheerfully devoted, will miss him the most seriously and will cherish his memory the most tenderly, for above and beyond all other men Henry W. Grady was its most eloquent exponent and its best individual representative.

SOME of the enterprising men of Winchester and elsewhere in Clark county, Ky., have issued a neat little pamphlet, illustrative of the natural advantages of that county. The illustrations are very numerous, particularly of prominent men and the finest farms thereabouts. These energetic men have had a struggle against conservatism, and it is sincerely to be hoped that they may reap benefit from this pamphlet which is to be widely circulated. The resources of the county are adapted to almost any kind of manufacturing, and any one intending to undertake manufacturing of any sort, will do well to send for one of these pamphlets and investigate as to what Clark county is.

Economic Development of Southern Towns.

Mr. Abbott Lawrence was probably the most remarkable and sagacious man New England ever produced. He was a merchant in profession, but at the same time a statesman, patriot, philanthropist and seer. History tells us that when New England was first striving to become a manufacturing center, Daniel Webster expressed his doubts to Mr. Lawrence as to whether the infant industries could compete with the cheap and trained labor of Great Britain, but was answered that he need have no fears of killing competition as long as the people of the South refrained from manufacturing. Whether this incident is true in fact, is immaterial, but it is representative of the foresight of this remarkable man. By the aid of a tariff the infant industries have become strong and robust industries. Every industry that this tariff fostered has enriched New England, and in enriching that section has enriched the whole country.

Now the era is dawning that Mr. Lawrence cautioned Mr. Webster about. The South is entering upon manufacturing enterprises. The many industries of New England may not be driven to the wall by the industries of the South, but they will have in them competitors closer than any they have ever encountered.

Two important factors in the up-building of the industrial South are just beginning to be appreciated. These are the increased amount of energy and wealth that every new family brings to a thriving town, and the importance of small industries. New England has become great and rich by looking after these small things. Some of her leading industrial establishments of to-day started twenty or perhaps fifty years ago in a little shed, and her large industrial centers have grown by drawing to their population single families at first, and later on scores of them at a time. Every industry, however small it may be, creates wealth, and, in many cases, the smaller the industry the more wealth, proportionately, it creates. It requires a thousand dollars or so per operative to build and equip a cotton mill or a blast furnace, or some other such large industry, while many of the smaller industries, woodworking establishments for instance, can give one person employment for about every two hundred dollars invested. And every industry, large or small, creates wealth by adding to the volume of business of every trade and business in the town in which it is established.

Towns in the South that are struggling for industrial growth, should bear in mind this proportionally greater wealth creating power of small industries over large ones. When they have these smaller ones in their midst and have added to their wealth, then they can consider branching out and establishing larger industrial plants. Such economic and systematic growth as this must be had before the South can compete with the North in the manner that Mr. Lawrence foretold.

Malice, Stupidity or Carelessness—Which?

It is difficult at times to judge whether it is malice, stupidity or carelessness that prompts some of the criticisms that are occasionally given to every work, however meritorious it may be. The MANUFACTURERS' RECORD does not object to criticism when based on facts, or when our critic honestly seeks to investigate before expressing his views, but it does object to absolute misstatements that have not the shadow of a foundation—misstatements that could only be made from the most wilful stupidity and ignorance, from malice, or because of too much carelessness to seek to know the truth. A case in point that will serve to cover the matter, and which will show how absurd a criticism can sometimes be, is the following from the Mobile Register:

If the Baltimore MANUFACTURERS' RECORD is to be regarded as an authority in the matter of Southern industrial statistics, it must exercise greater care than it shows at present in its compilations. Take the annual review of 1889 for an example. Therein are given most astounding figures indicative of the progress of the South in industrial pursuits, and Southern readers no doubt will feel proud of the exhibit made by their labors. When these calculations are closely scanned, however, they seem altogether too good to be believed. The MANUFACTURERS' RECORD says that 3,036 saw mills, planing mills, sash and door factories and stove factories, have been established in the South during the year, whereas it is improbable that the total number of such establishments in the whole South for all the years of its industrial progress up to date amounts to much more than three thousand. To have doubled this total in one year's time would be a most extraordinary performance, even for the magically growing South. According to the latest reports of all the railroad companies in the South and special reports all compiled under the direction of the Chicago Northwestern Lumberman, Alabama has 196 establishments, Mississippi 191, Tennessee 483 (many being small or portable saw mills), Virginia 219, North Carolina 264, Georgia 266, Florida 159, South Carolina 98, Kentucky 325, West Virginia 200. The average of these is 255 per State, which average can be reasonably applied to Louisiana, Texas and Arkansas, the three Southern States of which the records are not at hand. At this rate, the South has altogether 3,050 saw mills, planing mills, sash and door factories and stove factories; and, as these compilations by the Chicago Lumberman were made in the summer of this year, it is evident that this total must include even a part of the Baltimore paper's collection of "new" establishments. The reader will doubt the expediency as well as the propriety of this continued "booming" of the South upon figures which will hardly stand the test of a half hour's investigation.

The injustice of such an article, unless it were correct, is apparent. It seeks to destroy the credit and reputation of another, and if its readers have any faith in it, the Register has convinced them that the MANUFACTURERS' RECORD is unreliable. Let us examine the facts a little. The MANUFACTURERS' RECORD did not say that 3,036 woodworking establishments had been started in 1889. It distinctly and

pointedly said four years, and then, for fear some one could not comprehend this, it added that these four years were "since January 1st, 1886." But it did not stop there. It gave the number for each year as follows:

1889.....	1,066
1888.....	796
1887.....	726
1886.....	448
Total four years.....	3,036

So the Register's one-year story was either based on malice, stupidity or carelessness—Which?

Then the Register estimates that the South only has about 3,050 wood-working establishments of all kinds all told, and hence, that the MANUFACTURERS' RECORD's figures must necessarily be wrong. Had the Register taken the trouble to examine the census reports of 1880, it would have found that the number of saw mills, not counting other lines of wood-working establishments, in that year was as follows:

States.....	Saw Mills.
Alabama.....	354
Arkansas.....	319
Florida.....	135
Georgia.....	655
Kentucky.....	670
Louisiana.....	175
Maryland.....	369
Mississippi.....	205
North Carolina.....	776
South Carolina.....	420
Tennessee.....	755
Texas.....	324
Virginia.....	907
West Virginia.....	472
Total.....	6,526

Thus in 1880, or ten years ago, the South had more than twice as many saw mills alone as the Register estimates of all wood-working enterprises. These figures, as we said, are for saw mills only, and do not include planing mills, sash and door factories, furniture factories, shingle mills, stave mills, etc.—of these different mills, Virginia in 1880 had 326, and the other States were likewise liberally supplied—while the 3,036 wood-working enterprises reported by the MANUFACTURERS' RECORD included, as distinctly stated, "saw and planing mills, sash and door factories, stave mills, etc."

The Register deliberately misrepresents and changes four years into one year, and then adds to this by basing its criticism upon figures that a moment's investigation would have shown were entirely false. If the Register's criticism was due to thoughtlessness or carelessness, it will make its apology as full as its unjust attack was. If it was malice or stupidity, it will seek to hide its wrongdoing by doing a little more of the same kind of work.

We have given this much space to this subject because it will explain the groundlessness of other criticisms that we do not have the time or space to waste in answering.

THE current number of the MANUFACTURERS' RECORD is indeed a superb paper, containing, in addition to its usual amount of fresh and reliable news matter, a wonderful resume of the banking business of the entire country, and particularly of the South. Some of its figures are really startling in their magnitude, and the amount of labor evidently involved in its preparation was immense.—Madisonville (Tenn.) Gazette.

Bessemer Iron in North Carolina.

The 'great steel enterprise at Greensboro, N. C., has been a surprise to many people in the North who would not believe that there was any steel-making iron in the South. Even such a prominent manufacturer as Mr. Carnegie said in a speech a few days ago that he understood there was a little Bessemer iron that had been discovered in the South. He did not seem willing to acknowledge that the supply was inexhaustible, in spite of the fact that his own firm had tried to buy certain Bessemer ore properties in the South.

The MANUFACTURERS' RECORD has always claimed that the deposits of fine Bessemer ores in North Carolina were too vast and too extensive for the world to comprehend or believe. As a fair illustration of what some of these ores are, we have gathered some of the assays made at different times of samples of ores from the "Ore Hill" property. In examining these analyses it should be remembered that there are a number of veins of different kinds of ores on this property, and these samples are fair averages from all the veins:

	Metallic iron.	Phosphorus.
Prof. W. C. Kerr's report.....	57.41	none
Dr. O. D. Allen.....	58.67	none
" " " ".....	59.62	none
" " " ".....	54.90	none
" " " ".....	57.13	none
" " " ".....	53.74	none
Crane Iron Co.	51.36	none
" " " ".....	56.66	none
" " " ".....	46.57	none
" " " ".....	53.16	1.531
" " " ".....	49.76	.959
Booth, Garrett and Blair.....	60.90	.219
" " " ".....	56.17	.430
" " " ".....	57.69	.833
" " " ".....	50.34	.822
S. A. Richards.....	59.90	.038
" " " ".....	37.70	none
" " " ".....	67.48	none
" " " ".....	68.74	none
Prof. F. A. Genth.....	57.03	none
" " " ".....	59.03	none
" " " ".....	67.60	none
" " " ".....	57.32	none
H. B. Nye.....	45.45	none
" " " ".....	37.70	none
" " " ".....	54.80	.276
" " " ".....	58.90	.038

These 27 assays, made by some of the best-known metallurgists of the country, show an average assay of 55.42 per cent. of metallic iron, with a very low average of phosphorus, more than one-half of the samples being reported as entirely free from phosphorus. With these facts there can be no possible question as to the high quality of the ores. Mr. S. A. Richards, the well-known Lake Superior iron expert, of Chicago, examined the Ore Hill property. "I picked up a 'lean' specimen and had it analyzed," said he, "to see what its impurities were. It is remarkable that this ore contains neither phosphorus or sulphur." Mr. H. B. Nye, who made the assays for Mr. Richards, wrote that it was the only ore he had ever examined that contained absolutely no phosphorus. Of a dozen complete assays at hand, the average percentage of silicon is only 1.94, the lowest being .40 and the highest 4.96. There are other deposits of iron in North Carolina which give every evidence of being as extensive and rich as this, and after a few more such enterprises as this one at Greensboro have been organized, the iron manufacturers of the North will rub their eyes in wonderment for not having credited the statements of the MANUFACTURERS' RECORD.

To the Southern Press.

There are matters of moment to which the MANUFACTURERS' RECORD would call the earnest attention and candid consideration of Southern editors and press correspondents.

It is the universal custom to make as much as possible of every local sensation. Leaded headlines emphasize whatever news items seem to be especially exciting, and reports of local occurrences are padded with all the verbiage they will bear.

All this is well enough. The happenings of a neighborhood are of more interest to the immediate citizens than are affairs elsewhere, however great may be their actual importance. It does not follow, however, that the happenings of any and every neighborhood interest the world at large. And yet news-gatherers seem to think so, judging by the trivialities daily sent over the wires and published in a thousand papers. Nor are more serious events, such as rapes, assaults, murders, which are usually reported at length, of real interest to any other than the community in which they occurred. Yet take any paper and note critically its press dispatches for several consecutive days, and you will be astonished to see how much space is occupied with such items. A foreigner reading the average American daily paper, and having no other source of information, would naturally conclude that we are a nation of thieves and murderers. For like reasons the Northern citizen has largely reached the conviction that the South is given over to lawlessness, that crimes abound, that human life is but lightly esteemed, and that however rich and inviting the business opportunities, they are accompanied by risks and dangers that he does not care to encounter.

For this erroneous opinion the Southern news-gatherers are mainly responsible, and they can easily and quickly correct it if they chose by giving to interesting facts about business, political and social life the space they have hitherto devoted to crimes.

Last week furnished notable illustrations of omission and commission. No single event of equal importance to the death and burial of Henry W. Grady has occurred in the South for years. It was of national interest, and should have been accorded large space. At about the same time there was a riot near Jessup, Ga., in which several black and white men were killed. The accounts of this affray occupied much more space than was given to the Grady obsequies and to the memorial meeting next day. Yet, while the former was of no more importance than if the affray had occurred between so many Italian and Irish laborers at the North, it was made much of by the press, and thus afforded cumulative evidence to maintain the false notions of Southern moral and social conditions.

Now, cannot this business be stop-

ped by the voluntary action of Southern news-gatherers? The South abounds daily with good news items. There are charities to unfold, literary and educational institutions to exploit, great sermons and able forensic efforts worthy of mention and new business enterprises springing into being. If Southern news-gatherers will diligently give facts like these in their press dispatches and leave the publication of petty broils or larger affrays to the local papers, they will soon correct the wrong impression that is altogether too prevalent in other sections, and do simple justice to the bright, beautiful and prosperous South.

The South and Cotton Manufacturing.

Mr. Edward Atkinson attempts to prove in the January Popular Science Monthly that the South is not likely to become a formidable competitor to New England in the manufacture of cotton. He brings forth point after point to make out his case, then says: "I have given my manufacturing friends (the paper having been first read before the New England Cotton Manufacturers' Association) an optimistic view of the future of cotton spinning in this country. Bear in mind that for any immediate application these figures are all rubbish."

Most of the points that Mr. Atkinson makes are based upon mere theoretical conditions. They are good points, providing the theoretical conditions are good, but there is no way of proving whether or not these are good. In other points he has not done the South full justice. In New England gathering statistics is a hobby, and many citizens, as a pastime, devote their lives to statistics on this or that subject. Towns, counties and States have gone into the statistic business, and, as a consequence, it is very easy to obtain comparatively accurate statistics on almost any subject for almost any year or period of years. In the South statistic gathering is in its infancy; hence, while many of Mr. Atkinson's conclusions regarding New England may be accurate when regarding the South they are mere approximate guesses. Furthermore, new conditions are constantly arising which it is impossible for us of the present day to make allowance for. Thirty years ago scores of cotton manufacturers went into Maine and New Hampshire, owing to the abundance and cheapness of water-power. No one would think of going there to-day for this reason. Cheap coal now discounts this water-power by a large percentage, and in the South coal does not cost much more than half what it costs in New England.

"I am confident," says Mr. Atkinson, "that we may hold a long lead, and that we need not yet borrow trouble from any competition in Southern factories." The MANUFACTURERS' RECORD expresses the feeling of the whole South when it hopes the North will not "borrow

trouble" in this matter, but the idea of holding a "long lead" is out of the question in these days of close competition. A few years ago manufacturers said New England could not spin fine yarns, but every year sees it spinning finer and finer yarns. The same will be true of the South. In spite of Mr. Atkinson's theorizing to the contrary, we claim that there is no section of the North that has a climate that can compare to that of the Piedmont district of the South. This district is not so warm as Southern New England—Mr. Atkinson's theoretical coming cotton spinning region—in the summer, nor is it as cold in winter. Mills can be built in this region cheaper than they can in New England; fuel is and always will be cheaper, and the same is true of labor. Mr. Atkinson says wages will continue to rise in the South with the increase in efficiency in labor, until they equal those in the North. This is an absurd proposition. Labor is always paid to a certain extent, according to living expenses, and living must always be cheaper in the South than in the North. Food, clothing, fuel and houses are and always will be cheaper in the South than in the North. The South now has the benefit of a cent a pound, the cost of transporting cotton North. "What will the South do when transportation rates are half what they are now, as they inevitably must be?" asks Mr. Atkinson. It will learn the lesson of economy which experience brings, as New England has done, and still be half a cent or a cent ahead, we answer.

We regret to see a man of Mr. Atkinson's calibre forgetful of the fact that there is a vast difference between the South of 1889 and 1880. To the uninitiated his article carries the inference that the South is only building small mills—mills of perhaps 5,000 spindles. This is an error. The South appreciates the fact that only large mills are economical, and consequently nearly all the new mills building are large ones. Furthermore—and we would call Mr. Atkinson's attention particularly to this fact—the stock in many of these new and large mills is held mostly in the North. This does not look like "holding a long lead," nor does it look like "borrowing trouble," but rather like taking time by the forelock and getting ahead of trouble.

The South has the advantage over the North in cotton manufacturing, in the saving of transporting cotton, the cheapness of building and running mills, the cheapness of labor, the quality of its labor, its equable climate and the less cost of living. As to the extremes of humidity in the atmosphere which operate against spinning fine yarns, when the South has acquired the requisite skill to do this finer work human ingenuity is equal to the task of providing the necessary humidity if nature has not done it, and yet not eat up the extra profit which the South still has and always will have, to the disadvantage of the North.

What is the Matter With Clark County, Kentucky?

One of our Kentucky weekly exchanges says a certain gentleman is in town soliciting subscriptions to stock in a new bank to be established at Dallas, Texas, to be capitalized at \$500,000, and that he has secured subscriptions in Clark county to the amount of \$72,000.

The MANUFACTURERS' RECORD rejoices in the marvellous growth of Dallas. No town can fail of growth and development that displays the untiring energy that Dallas does, and there can be no doubt but that it is to be one of the leading business centers of the Southwest. And what is more, this same pushing spirit is found in almost every city, town and hamlet in Texas, and the State is growing at a pace that is astonishing the world. So Clark county, Kentucky, which has \$72,000 in uninvested funds, sends to Texas to make investments. This is not because Texas as a State is richer and more fertile in resources than Kentucky, but because it is more energetic. Clark county is one of the most favored of counties by nature in Kentucky. The fertility of its soil is scarcely excelled anywhere from the Atlantic to the Pacific. It is one of the most richly timbered belts in the country, rich especially in choice hard woods; it is supplied with railroad connections; it is near to inexhaustible deposits of coal and iron; in fact, this county is a "bloated bondholder" as far as resources are concerned. And yet it sends its spare money to Texas for investment.

In this county is Winchester, a famous town, whose energetic citizens have begged of its wealthy men to invest a little money at home and build up the town. But the county moves along in its wonted way. As far as progress and development are concerned, it is making comparatively little progress, considering its advantages. We have no doubt that so far as mere investment is concerned, this \$72,000 sent to Texas will bring in good returns, but it could have been invested at home to bring in just as good returns, and at the same time have aided in building up a county which its citizens pretend to be proud of.

Need people wonder why Central Kentucky does not develop as rapidly as other parts of the South when its own moneyed citizens publicly proclaim that they have no faith in it as a place of investment? And what is true in this case is true of many places in the South where the surplus capital seeks foreign instead of home investment.

The "Special Bankers' Edition" of the MANUFACTURERS' RECORD contains a lengthy review of the South's growth and prosperity, and proves that the future of the South as a country of commerce is beyond the most sanguine hopes of her well-wishers. Every business man should have a copy of the "Special Bankers' Edition."—Pine Bluff (Ark.) Press-Eagle,

Railway Construction in 1889.

By the co-operation of railway officers, supplementing the systematic record of every railway enterprise of which information could be obtained, we are again able to complete the extremely difficult work of gathering the statistics of railway construction for the United States and to present a summary of the work a few days before the close of the year. Early in the spring of 1889 The Railway Age published a table which showed that a surprising number of railway enterprises were then under construction and projected, notwithstanding the fact that the previous year had closed with a great depression in railway interests, resulting from excessive over building, so that it was the general belief that construction had come almost to a standstill and that very little new mileage would be added during 1889.

The enumeration of new enterprises to the number of several hundred however gave evidence that there was felt to be room and demand for many thousand miles more of railway in the United States at once, although it was of course evident that only a portion of the mileage then projected was likely to be immediately constructed. A little later in the year it began to be evident that the aggregate of construction for the year would be much larger than the public seemed to suppose, and The Railway Age after reviewing the field placed the probable mileage that would be added during 1889 at not far from 5,000 miles. The facts have now justified this statement, as we are able to state that the tracklaying for the calendar year 1889 will amount to at least 5,230 miles, with the possibility that these figures will be slightly exceeded when the final and corrected statement is made. Summarizing from our detailed records we now give the following statement of new track (main line only, not including sidings and additional tracks) which have been laid in the United States since December 1, 1888:

TRACK LAID IN THE YEAR 1889.			
States.	Lines.	Miles.	St. ter.
9 New England and Eastern States:			
Maine.....	2	18	
N. Hampshire.....	5	45	
Massachusetts.....	1	2	
Connecticut.....	2	7	
New York.....	19	153	
5 Central Northern States:			
Ohio.....	9	112	
Michigan.....	14	243	
Indiana.....	7	123	
10 Southern States:			
Virginia.....	13	245	
N. Carolina.....	10	216	
S. Carolina.....	3	43	
Georgia.....	17	356	
Florida.....	11	175	
6 Southwestern States:			
Missouri.....	8	84	
Arkansas.....	5	44	
Texas.....	9	343	
6 Northwestern States:			
Iowa.....	3	90	
Minnesota.....	9	147	
Dakota.....	4	82	
5 Pacific Coast States:			
Washington.....	19	398	
Oregon.....	3	30	
California.....	12	121	
Totals in 41 States and Territories.....			
			5,231
RECAPITULATION.			
New England and Eastern Group.....			557
Central Northern Group.....			764
Southern Group.....			1,839
Southwestern Group.....			722
Northwestern Group.....			615
Pacific Coast Group.....			674
Totals.....			5,231

The total of new mileage for the year it appears is nearly 1,800 miles less than that of 1888, and some 7,800 miles less than that for the year of phenomenal and reckless construction, 1887. During the twenty years preceding 1889 the new mileage of the present year was exceeded in ten years, and it in turn surpasses that of ten other years, the periods of large construction seeming to move in waves of four or five years each. While the construction in 1889 was less than in the years '88, '87, '86, '83, '82, '81, '80, '72, '71 and '70, it was larger, and in most cases very much larger, than in the years '85, '84, '79, '78, '77, '76, '75, '74, '73 and '69. The smallest amount of construction in any of the twenty preceding

years was in 1875, when only 1,711 miles were added, although in 1871 the large amount of 7,379 miles had been built and in 1870 6,070 miles. The present is second year of decline from the maximum, and although reasoning from experience the decrease would be likely to continue another year or two, still the conditions of the country have so greatly changed, the cost of railway construction has so greatly diminished and the demand for railways has become so great that it is not probable that any year for a good while to come will see a smaller amount of mileage added than that of 1889. The subject of the probabilities for construction for the coming year, however, will be taken up in another issue, when the enter, rises now in hand and projected will be examined somewhat in detail. There is only time in this article to allude briefly to what has actually been brought to completion during the past twelve months.

It will be seen from the foregoing table that 316 different lines—a few lines being here subdivided by reason of lying in two different States—have had track laid upon them during the year, while of course the work of grading has been going on upon a very large number of others which have not reached the tracklaying stage. The average mileage of each line completed during the year is only 16½ miles, which is even less than the small average of about 20 miles in 1888 and shows that the work this year has been chiefly on short extensions and branches and has not consisted to any considerable extent of long lines. The element of parallel railway building, which caused the excessive and unhealthy activity of previous years, has been almost absent, and in nearly every case the extension or new road has been built because it was believed to be needed, and not chiefly to get away business from a competitor.

The States showing the greatest extent of new mileage are as follows: Washington 398 miles, Georgia 356, Texas 343, Virginia 245, Michigan 243, all the other States and Territories showing less than 200 miles each. The only portions of the country from which no new track has yet been reported for the year are Vermont, Rhode Island, Delaware, Nevada, Arizona and New Mexico. Taken by geographical groups it will be seen that the ten States which may be distinctively known as Southern have far surpassed every other group, reporting 1,829 miles of track laid on 97 lines. While in respect to number of States and area this group exceeds either of the others, it nevertheless is entitled to the credit of showing more rapid development in proportion to area and population than any other section of the country.

The Southwestern States and Territories, with their vast unoccupied territory, have made considerable progress, building nearly 800 miles this year, which, however, is scarcely half of the mileage added in 1888. The Northwestern States nearly hold their own in comparison with last year, and the Pacific coast region has shown considerable activity, although this has been chiefly confined to the thriving State of Washington, while California, which in 1888 built almost 600 miles, now has added only about 120. The Eastern and Central parts of the country, already pretty well supplied with railways, naturally have not shown as rapid rate of increase as the newer portions, although the railway builder has not by any means been idle in any of them excepting Vermont, Rhode Island and Delaware. Pennsylvania and New York have continued to build numerous short lines, the former State adding 188 miles on 23 lines, and the latter 153 miles on 19 lines, both these States greatly exceeding their record for 1888.

The addition of say 5,300 miles of new road during the year means that, at the

moderate average of \$20,000 per mile, the vast sum of \$106,000,000 has been invested in their construction and equipment, and that employment for the future has been furnished thereby to from 25,000 to 30,000 more men who will be required to carry on the operations of these lines, while thousands more will be kept busy in supplying the various manufactured articles the demand for which is increased by the addition of every new mile of railway.—Chicago Railway Age.

[*The Railway Age does not classify Maryland, West Virginia, Texas and Arkansas as Southern States. Including these States, the figures for the South aggregate considerably more than these figures.—ED. MANUFACTURERS' RECORD.]

Yazoo Delta Lands.

Mr. A. E. Randle, of Washington, D. C., is in the city. He is one of the richest real estate owners of the rich Yazoo Valley and also president of the Yazoo Delta Lumber Co. An Appeal reporter met him last night and asked him what he thought of the Southern investments. He said: "A man's actions are governed by his thoughts. Now in Washington a man is offered opportunities to invest in probably more schemes than any other city in the country. There are innumerable patents for sale and schemes every day presented wherein a man could get onto million-acre land grants, etc. But with all of these photographs of 'sure money to be made at once,' I concluded to come into the Delta was the best for me."

Why?

"Because it is the only place that I know of which pays 100 per cent. annually upon an investment. For instance, lands can be bought there at \$8 per acre, heavily covered with fine timber, consisting of white oak, (which, put into mercantile shape called oak finish, command a high price in the Northern markets,) ash and red gum, a valuable timber for furniture, and other hardwoods. After this timber is taken off these lands will rent for from \$8 to \$10 per acre annually. A bale and sometimes two and a-half bales of cotton is gathered from each acre. Now the lessee, we say, pays \$10 rental. The cost of cultivation is upon an average \$25. His cotton brings him \$50 per acre, so we see he has a profit of fully \$15 on each acre he cultivates. Evidently the world must look towards that country for its cotton products. It is the only country I know of that is peculiarly adapted to cotton growing. Nothing else but cotton and corn are grown there, and nothing else but cotton and corn will be attempted. The hills are adapted for the cultivation of fruits and small cereals; they make that profitable. The Delta makes cotton profitable. Why, the Yazoo Delta is capable of raising enough cotton for the entire world, and, in my opinion, in a few years she will do it. It is a country possessing a mild climate, healthy and productive, where a poor man can live with ease, comfort and luxury upon his muscle; where a man is not circumscribed in his social relations on account of his bank account, but upon his merit. Further, it is a paradise for the colored man. I have noticed him throughout the North, and find him there either in the barber shop, a waiter or a bootblack. But in this section we find them land-owners; we find him enjoying all of the rights of freedom, making an honest living, paying his debts, happy and contented as he could be nowhere else. And all of the talk about race friction, to my mind, is groundless. Looking at the Delta country, with its great natural wealth, and to Alabama, with its vast coal and iron fields—those furnaces and rolling mills are running night and day, while in Pennsylvania they are closed—I am constrained to believe that Gen. Sheridan was partly correct when he once said to me that the South had more elements of prosperity than the North, but no industry."—Memphis Appeal.

A VAST PROPERTY.

The De Bardeleben Coal and Iron Company's Possessions.

Among the noteworthy industrial events of the last twelve months, and which deserves special prominence, is the consummation of Mr. H. F. De Bardeleben's long cherished purpose to build up the most valuable coal and iron property in the South.

The De Bardeleben Coal & Iron Co. tells the story of industrial growth in the Birmingham district more forcibly perhaps than any one example which could be cited, and it is doubted if any example of more rapid development is furnished in the annals of American enterprise.

It was organized a little more than four years ago, with an actual capital of \$2,000,000, represented by 40,000 acres of coal and iron lands, and commercial capital sufficient to build two blast furnaces. The timber had to be cleared for laying the foundations for furnaces, railroads had to be built, mines had to be opened, equipment purchased, houses built, furnaces constructed, labor organized, economy in development studied, properties acquired, combination for economical manufacture to be effected, coke ovens constructed—indeed everything had to be created, with only the small resources of the first organization out of which to create and build, and new capital had to be provided for each step forward in building and buying. It was a stupendous undertaking to build and develop the strongest coal and iron property in the South in so short a time, and it took matchless energy and stout hearts as well as business foresight to conceive and dare to execute.

The capital stock of the company is now \$10,000,000. It has a bonded debt of \$3,000,000; but of the proceeds arising from the sale of the bonds, the company will have left, after disposing of all obligations, a cash capital of \$2,000,000 for commercial purposes.

Its landed property consists of 140,000 acres of select coal and iron lands; seven blast furnaces, new and fully equipped, with a daily capacity of 800 tons of pig iron; seven coal mines, with a daily capacity of 5,000 tons; seven ore mines, with a daily capacity of 4,000 tons; 900 coke ovens, twenty-five miles of standard gauge railroad, limestone and stone quarries opened and operated by the company sufficient for all practical purposes, 940 houses of all kinds, to say nothing of the multitude of items of equipment.

The strength of position of this company is shown in a striking manner at two points of its coal and ore property.

The Blue creek mines—three in number—opened and being operated, have a daily capacity of more than 2,000 tons of coking coal, analysis of which shows the coke produced from the coal to be higher in fixed carbon and lower in sulphur than any coke south of the famous Pocahontas, and the equal of that in all the elements of economic iron making. These mines have each 7 feet 6 inches clean coal, and it is mined by contract 5 cents per ton cheaper than any coal in the Birmingham district. Other mines are being opened and may be opened to increase the output from this field indefinitely. Transportation, coking and handling from the mines to the stock house have been reduced to the minimum, and the coal yields 62½ per cent. in coke, and costs, laid down in the stock house, not exceeding \$1.80 per ton of coke.

The ore situation is still stronger, the ore mines Nos. 1 and 2 of the Eureka division furnishing the most remarkable vein of red hematite ores perhaps to be found anywhere on the globe. Here we find, extending along the crest of Red mountain for a distance of three miles, the outcrop of ore varying from 22 to 26 feet in thickness, requiring only a small amount of stripping to uncover a vast body of many

million tons of the best ore in this district. These ores can be mined so economically that this company can put the ores in the stock house of the furnaces at not exceeding 55 cents per ton.

The gross tonnage of the vast body of ore and coal owned by this company, which expressed in distance means in ore alone over sixty mining miles, has been carefully estimated. The figures foot up nearly the enormous sum of 4,000,000,000 tons of coal and iron ore, nearly equally divided.

The earning capacity of present improvements foot up over \$2,000,000 annually. When we consider the estimate on the earning capacity of this company after only four years work in the developing and getting together of the property, and consider its vast possibilities if only the earnings should go into the construction of new furnaces and mines during the next four years, it is not extravagant to say that it is the strongest single property in America.

It is given out on the authority of Mr. L. W. Johns, general superintendent of the company, that the work of development will continue on a great scale during the coming year. Asked about the intentions of the company he said:

"We will build four more new furnaces at Bessemer and open several new coal mines. Probably all of this will be done within a twelve-month."

What will be the size of the furnaces?

"They will be 17 feet bosh, with a capacity of 120 tons each, and of the most improved type, like those of the present plant, of which they will be an extension."

And what is all this tending to?

"It means steel; steel in the very near future. We are now competing successfully with the iron production of the North; but all is steel there, even in the iron centers. So, too, it will be here. It can't be far off. We can make steel, and the best steel, by either of the open hearth processes, and all of the improvements now being made tend toward it."

How, Mr. Johns, do your company's lands compare with the other coal and iron lands of the district?

No sooner was the question asked than the "flood gates" of the superintendent's wonderful memory of the resources of his great company were opened.

"We are second to none either in iron, coal or furnaces in Alabama; in fact, if I must say it, we are on top, and intend increasing our plants as fast as money and men can do the work. Mr. De Bardeleben will never be satisfied until we are making 1,500 tons per day of pig iron, and that converted into steel."—Birmingham Age Herald.

Wants to Make Southern Investments.

Mr. Samuel R. McLean, investment and merchant banker, 39 Broad street, New York, and London, in a letter to the MANUFACTURERS' RECORD says: "As our mutual New York friend, Mr. Fred. Taylor, and others declare, and as all your patrons must agree, your Bankers' Issue is the most practically useful for the bankers of this country, as well as for manufacturers; but I have known foreign investment clients to whom I have carried and shown copies to be deeply interested. Many of your patrons will be interested to learn that I shall be pleased to entertain true statements of any industrial business which can show a reasonable net profit the past three or more years for the investment of old foreign clients, who likewise wish for proven mineral lands, and new railroad securities they prefer to old ones quoted high; and, in short, our old, rich and influential clients ask us to select for them and friends any solid investment securities of incorporation, industrial, State, county, city, water and improvement mortgages that are solid for a sum of many millions in toto."

Prosperous and Progressive Anderson.

ANDERSON, S. C., Dec. 22, 1889.

Editor Manufacturers' Record:

I noticed in the MANUFACTURERS' RECORD of August 18 a short article descriptive of our town, in which the writer gave a sketch showing the wonderful progress of this place for previous twelve months. Since that article appeared the enterprises therein mentioned have nearly all been completed, and many other improvements then in contemplation have been actually begun.

The Masonic Temple has been finished and is an ornament to the city. Indeed it is a fitting comparison to Hotel Chiquola, which stands on the opposite corner of the public square. This elegant structure, just finished by the Anderson Hotel Co., is certainly worthy of all that has been said of it in the many descriptions which I have seen of it, and I think it is very properly given the first place among the hotel buildings of the State. The exterior is finished with pressed brick, while the interior is very handsomely finished in oak, walnut and the beautiful hard pine of the South. The rooms, forty-eight in number, are large and airy, each having an outside window, and are furnished in the latest style. The house is also provided with all the appliances and modern improvements pertaining to the most complete hotels of the day, such as gas, electric-light arrangements, electric bells, water works, elevator, &c. The whole is under the management of Mr. B. W. Sperry, formerly of Michigan, but lately of Tusculumbia, Ala., where he was the efficient manager of a large and successful hotel. I feel that I venture nothing in asserting that in point of hotel accommodations Anderson stands to-day unrivaled in this State.

The cotton mill will soon be in operation. It presents quite a handsome view standing near the western boundary of the city, and, with the neat houses of the operatives in the background, looks itself a miniature city. Among the new enterprises recently inaugurated would mention the Anderson Shoe & Leather Co., recently organized with a capital stock of \$50,000. It will tan leather and manufacture shoes. The following are its officers and board of directors: President, James M. Sullivan; secretary and treasurer, T. S. Crayton. Directors: James M. Cathcart, John M. Hubbard, James L. Tribble, E. C. Frierson, J. G. Cimingham, E. W. Brown and Wm. D. Brown. It is hoped to have the factory at work before the close of the coming year—at least the tannery part of it. The Baptist Church is now being remodeled at a cost of \$10,000, exclusive of a \$2,000 organ, which will be put in before the work is finished.

The city council has closed the contract for a system of water-works, which, by the terms of the contract, is to be completed by the 1st of next June. This is a very much needed improvement, and one for which our people will long remember the present city council. The council is also considering proposals for an electric-light plant, which, it is now thought, will be secured by the close of next year. These enterprises are an evidence of the spirit which actuates our people. But this is not all. The educational facilities of Anderson, already above the average, were very materially advanced last fall by the opening of the Anderson Female College. This college is in the hands of superior officers, and thus far has done remarkably well. It is proposed by its projectors to make it the equal of any institution, North or South, in the advantages it offers to young ladies and girls desiring a full course in all that goes to make up the curriculum of a first-class college. It is quite probable that we will soon have a new courthouse. The present building is inadequate to the needs of the

county, and it is proposed to convert the present site and grounds into a park and erect a new building on a more suitable lot. I hope to be able to chronicle the consummation of this work before a great while. The trade of the city has been exceedingly fine this year. Cotton receipts will probably reach 25,000 bales, being more than 5,000 in excess of the receipts of any previous season. The trade of this place will aggregate more than \$2,000,000 this year, while our population is steadily and rapidly increasing, it having more than doubled in the last two years. Of eight or ten storerooms erected during the last ten months, not one is vacant. The demand for dwelling-houses is beyond the supply and, as a consequence, real estate is on a boom. Our railroad facilities have not heretofore been all we could have desired, but we are gratified to know that better arrangements are being made which will soon give us a quick and easy route to the sea, either to Charleston, S. C., or Savannah, Ga., as one may choose. To sum up, I will say that during the past year more than a quarter of a million dollars have been permanently invested in Anderson. There are several other enterprises being agitated, and will, I think, soon assume a definite shape. Altogether, the outlook for Anderson is exceedingly bright. To any and all who wish to cast their lot with us in an honest effort to better their condition, either financially, or for climatic reasons, we say come. We offer a climate unexcelled by any in the world, a soil producing almost every crop, a citizenship unsurpassed for sobriety, honesty and thrift, and all else that will tend to build up the broken fortunes or shattered constitutions of all who seek for either in our midst.

J. W. Q.

[Special Dispatch to MANUFACTURERS' RECORD.]

CHATTANOOGA, TENN., Dec., 30, 1889.

As I have seen nothing in particular in your valuable journal from our town, we have thought that perhaps such is the great scope of country that you are taking in and the rapid growth of many of the neighboring towns that Chattanooga is being overshadowed and passed by, but we are here and are keeping up with the general progress of the South in every particular. Taking into consideration the numerous settled suburbs that surround our city, it has now a radius of over five miles from its center, and it will not be long before there will be as much population outside of the corporation limit as there is in it, and should a correct estimate be made, the amount of capital stock invested in manufacturing enterprises outside of the corporation and in the lines of the belt would probably exceed that which is invested within our corporation, and further than that nearly all of these suburban towns are now having the full benefit of gas and water. There is probably no town in the South that has more materially and substantially advanced than this city. There is hardly a day that passes but what some new manufacturing establishment selects a site for the erection of its works. Within the past three or four months several quite large wholesale houses have opened here, which enable the neighboring towns, especially those which have but recently been started, to buy their supplies with as much economy and greater dispatch than formerly. The coming year will add considerable to the importance of our city by the starting of the works of the Southern Iron Co., which will employ not less than 500 to 700 men. It is the intention of this company to make it a very large and important plant for the manufacture of steel. The general business progress of the entire district has kept up fully to the expectations and hopes of everyone, and it is safe to say that the most ardent hopes of every business man are more than fulfilled. The question of so much talk

about the construction of new furnaces in the South is not idle by any means. Almost before it is known to the public a location is made and work commenced, and a few months sees a new stock turning out pig metal. The new furnace at Rome, Ga., has broken ground. The company is headed by such men as Capt. Lyerly, of the Chattanooga National Bank, and L. S. Colyar, who has been identified with the management and construction of furnaces in the South for many years. Mr. T. M. Elliott, who constructed the furnace at Round Mountain, Ala., and which has been very successful from the very day it blew in, is now constructing another furnace in the vicinity of the other one, and expects to have it in operation about August 1st of the coming year. A new company has been organized in this city called the Ebonite Varnish Co. Their principal business will be the manufacture of black varnish, which is in such universal use among foundries, furnaces, railroads and wherever a black varnish is used. It will be the first of its kind in the South. Money throughout the South is very tight, notwithstanding the springing up of numerous new banks and many of them have large capital. Such has been the great increase of business, the many new enterprises started and the increase in value of real estate, that the banking facilities of the South are far from keeping pace with the requirements of the country, and 10 to 12 per cent. is the common rate paid for accommodations, and it is only a very profitable business that can afford to pay this. A subject of much interest among the iron producers of the South, which is on the increase, is the question of the facilities they have for exporting pig iron to other countries. The facilities for shipping Southern iron to the seaboard are as good as the average of the Northern producers, and freights from Southern ports to all European points are as cheap—hence does not Southern made iron have better facilities for meeting a European market than iron made in the North? There is no doubt but many will think this question much too premature, but a few years will develop many changes in the volume of Southern pig iron, as it has done in the past, and the opening of the Tennessee river to the Mississippi river will afford facilities yet unthought of, and some direct railroad lines from the iron-producing regions to the seaboard will create a great change in the marketing of Southern irons. The weather has been delightful for the past month or six weeks; in fact, too much so. Strawberries are not uncommon. Flowers are adorning many of the gardens and the peach trees have commenced putting out their blossoms.

A LEADING Southern business man writes to the MANUFACTURERS' RECORD as follows: "I am pleased with your articles published some weeks since about building associations. To my mind a good, honest local building association is a great and good institution. It teaches a community the lesson of self-reliance, and at the same time fulfills to people of lesser means all the conditions of a bank better than a national or State bank; but these national associations destroy much of the utility of them, nurtures the too prevalent idea in the South of small towns to look for somebody to care and do for them what they ought to do for themselves, and takes away from a locality the very management, which is at the same time economical and instructive. Let the good work go on."

THE New Orleans Shell Lime Manufacturing Co., Biloxi, Miss., is in the market for lime barrels in shook form. Use about a car-load per week.

Southern Securities and Investments.

We are much indebted for new and valuable information regarding the resources of the South to an article which appeared in the issue of December 21, 1889, of the MANUFACTURERS' RECORD, of Baltimore, Md., and is from the pen of its able and wide-awake editor, Mr. Richard H. Edmonds. The article is entitled "The South's Redemption from Poverty to Prosperity," and is well worthy of the careful consideration of investors and capitalists both at home and abroad.

We exceedingly regret our limited space precludes any but the most meagre notice of this valuable exposition of the resources and condition of the Southern States, which merits far more extended consideration and review than we can possibly give it. Mr. Edmonds' initial purpose is to bring prominently to the notice of investors the great and increasing value of Southern securities, real estate, mineral, agricultural and manufacturing interests and industries, and he, very naturally, is enthusiastic; but he has wisely avoided exaggerated theoretical estimates of values, and principally confined himself to statements of facts, which are verified by numerous authenticated statistical tabulations, fortifying his conclusions and arguments.

In treating his subject the author is logical and analytical, alluding to it as in 1860 the richest part of the country; 1870, the poorest; in 1880, signs of improvement, and in 1889 as in a fair way to regain its position of 1860. He separately considers the iron, coal, cotton, agricultural, manufacturing, banking and other industries of the South, with comparative tabulations of each.

Frequent reference and quotation is made to the opinions and letters of such well-known men as Hon. Abram S. Hewitt, Edward Cooper, Andrew Carnegie, Frederick Taylor, Secretary of State Pierce, of Massachusetts; Governor Goodell, of New Hampshire; Sir Lowthian Bell, of England, and many others. And we advise any one contemplating Southern investment to procure and read this valuable paper.—Bond Medium, New York.

THE Special Bankers' Edition of the MANUFACTURERS' RECORD, just out, contains 100 pages, and between the covers is found information regarding the marvelous development of the South in all branches of industry, that is simply startling, even to those who have endeavored to keep pace with our rapid growth. The number is called the Bankers' Edition, but is not devoted entirely to finance by any means, and should be read by everyone who has the slightest interest in the Southland. The journal contains an article or review written by R. H. Edmonds, the able editor, which is especially interesting. It is on the South's redemption, and speaks of the iron interests in the South, the rapid increase in coal mining, the unlimited possibilities of development in the South, some facts about cotton, in agriculture the South leads, railroads, Southern men leading in the South's redemption and a general summary. Buy the MANUFACTURERS' RECORD and read about the great South.—St. Augustine (Fla.) News.

THE "Special Bankers' Edition" of the MANUFACTURERS' RECORD is a model of energy and thoroughness of purpose in its grand efforts in building up and developing the great industrial resources of our Southern country. To this great publication the South is indebted in no small degree for the unparalleled progressive movement now going on within its borders, and which is attracting the attention of the whole world. With our limited space we cannot do more than give a few extracts from this valuable edition.—Camden (S. C.) Journal.

WELL DONE.—We have received the "Special Bankers' Edition" of the MANUFACTURERS' RECORD, of Baltimore, and we are more than ever confirmed in the opinion that of all the new industries that have been established in the South within a few years, the MANUFACTURERS' RECORD is the most valuable to our section. It is a mirror of what is going on in the South; a panorama of its work in every department of industry; a champion of our rights and interests, and Richard H. Edmonds, its editor, is an able, long-headed, strong-headed, hard-handed, sensible man, who deals honestly and conscientiously in solid facts and figures relating to the South. We owe him and the MANUFACTURERS' RECORD a debt of gratitude we cannot well repay. It is published weekly in Baltimore at \$4 a year. Single copies 10 cents.—Elizabeth (N. C.) Economist.

IN an elaborate review of the industrial progress of the Southern States since the war, the MANUFACTURERS' RECORD shows that this part of the country has made greater progress since 1880 than any other portion of the United States. The increase in railroads, manufactures and mills has been greater than ever before known in this country. In the past four years, for example, 14,000 new manufacturing and mining enterprises have been organized in the South. During the past eight years the valuation of property has increased over three billion dollars. West Virginia is doing her share of this great industrial development.—Parkersburg State Journal.

THE MANUFACTURERS' RECORD has issued a special edition, which treats of the South's Redemption—The Rapid Increase in Coal Mining—The Unlimited Possibilities of Development in the South—Some Facts About Cotton—Railroads and many other subjects of interest to those who have an eye on the South with intent of investing their capital. The MANUFACTURERS' RECORD is the universally accepted authority on Southern affairs, and keeps its readers thoroughly informed as to resources and advancement of the South, and it is a necessity to all who are or expect to be in any way interested in this section of the country.—Ritchie (W. Va.) Review.

THE MANUFACTURERS' RECORD, of Baltimore, one of our most welcome exchanges, and the journal which has been a prime factor in the industrial growth of the South, comes to us in a new dress, with colored covers and otherwise improved. The MANUFACTURERS' RECORD is a "boomer" and no mistake, and we tender our congratulations upon the wonderful success it has attained, believing it deserves it, and more if possible.—Boston Manufacturers' Gazette.

THAT great exponent of the South's interests—the MANUFACTURERS' RECORD, of Baltimore—came out on December 14th in a handsomely designed cover, and embodying several other excellent improvements. The MANUFACTURERS' RECORD pertinently asks, "How do you like the change?" and we say unhesitatingly that "we're stuck on it." The MANUFACTURERS' RECORD is the greatest exponent of industrial interests in the world.—New South, Memphis.

THE greatest industrial showing of any country for the same given time appears in the "Special Bankers' Edition" of the MANUFACTURERS' RECORD of last week. It is needless to say that the progress of the Southern States during the past ten years is ably handled by the editor, R. H. Edmonds.—Gainesville (Ga.) Industrial News.

THE Day-Ritchie Lumber Co., Bales Mills, Va., wants the address of lumber dealers.

The NORTH CAROLINA STEEL AND IRON COMPANY, WORKS--GREENSBORO, N. C.

Iron Mines---Chatham, Moore and Madison Counties, N. C.

This company starts out with the most flattering prospects of any company in the South. It has been organized for the manufacture of Bessemer Pig Iron and Steel. It owns large bodies of high-grade Bessemer, Mill and Foundry Iron Ores, and has enough **Ore in sight to supply 1,000 tons a day for fifty years.**

Coke will be brought from Eastern Kentucky by the Western North Carolina Railroad, or from Virginia by the Norfolk & Western and the Cape Fear & Yadkin Valley, which two roads will within a year connect at Mt. Airy.

The company has secured the famous "Ore Hill" and other iron ore lands amounting to some 2,000 acres in Chatham and Moore counties, N. C., on the line of the Cape Fear & Yadkin Valley Railroad, 40 miles from Greensboro; other magnetic iron ore lands in Western North Carolina, ample limestone 35 miles from Greensboro, on line of Cape Fear & Yadkin Valley Railroad, besides other franchises and about 2,000 acres of land in and around the City of Greensboro, which is to be laid off in Streets, Building Lots, Manufacturing Sites and Parks.

The company will at once proceed to erect at Greensboro a 150-ton daily capacity iron furnace plant for the manufacture of Bessemer pig iron, to be followed by others, with a steel plant and rolling mills for making steel rails; these plants to be at Greensboro. The company will foster and encourage all kinds of industries, and will make Greensboro a large manufacturing city, because, situated as it is, with its railroad connections, making it accessible to large bodies of the best kind of Bessemer ores, lime-

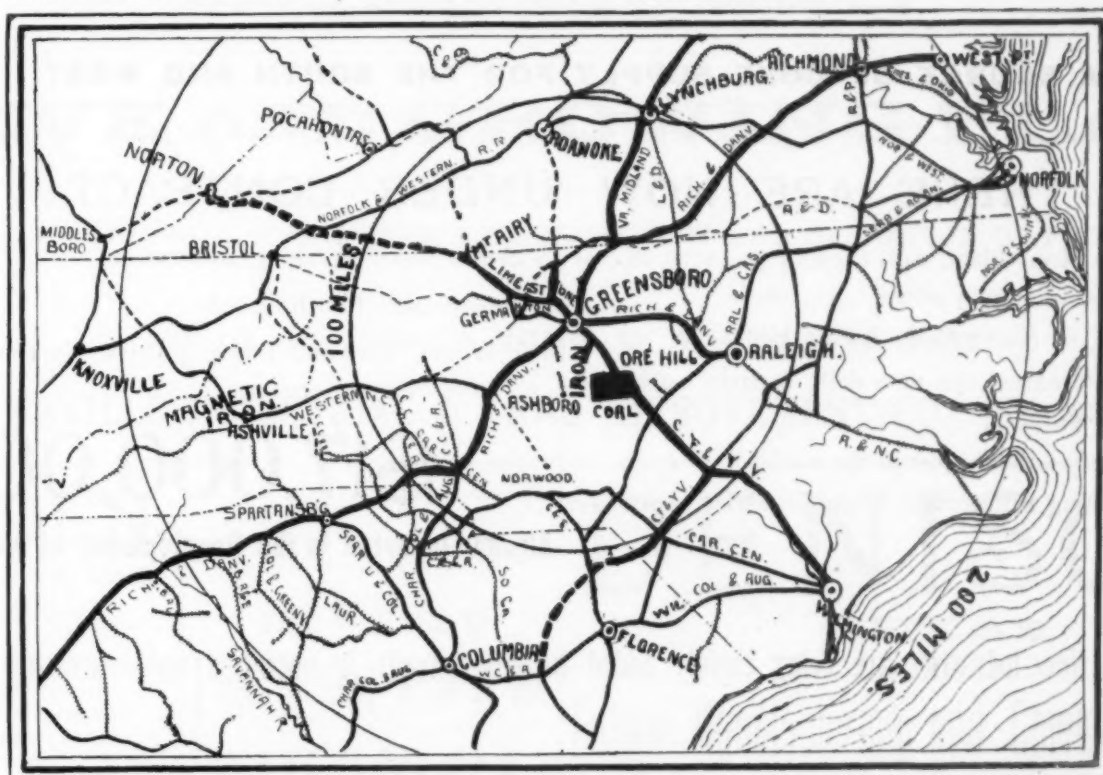
stone and coke, it is estimated that Bessemer pig can be made here at \$8 per ton. Iron has been made from these "Ore Hill" ores ever since before the Revolutionary war. Over 25,000 tons of charcoal pig have been made from these ores.

The Confederate government appropriated several millions of dollars towards making these iron ores available for war purposes, and the work on them was only stopped by the close of the war. The ores consist of brown hematites that average 56 per cent., red hematites that average over 60 per cent., and magnetites that average about 60 per cent., all of which are practically free from phosphorus and are low in silica, besides the famous black band ores.

The average run of pig made at the "Ore Hill" furnace in April, 1865, was 63 per cent., which shows what the ores will do.

These properties have been favorably reported on by such men as Prof. Emmons, Commodore Wilkes, Prof. Genth, Prof. Shaffer, Prof. Kerr, Prof. Wilber, George G. Francis, M. E., S. A. Richards, Smith Newman, Thos. P. Williams and many others, and from working an analyses of the ores show them to be in large bodies and high grade pure ores, from which to make high grade pig metal and steel.

This much for the ores. This company is located at the prosperous City of Greensboro, with all its various advantages, and is backed by the fostering care of the Richmond & Danville and the Cape Fear & Yadkin Valley Railroads, and officered by men of thorough business experience.



MAP SHOWING THE LOCATION OF GREENSBORO AND ITS RELATIVE POSITION AS TO ORES, COKE, LIMESTONE, RAILROAD AND WATER TRANSPORTATION.

Analyses of the Ores.

	BROWN ORES.		RED ORES.		MAGNETIC ORES.	
Metallic Iron.....	57.41%	58.67%	67.48%	68.74%	56.00%	64.00%
Phosphorus.....	none.	none.	none.	none.	none.	none.
Silica.....	1.42	3.79	2.10	1.40	4.25	3.10
Sulphur.....	none.	0.44	trace.	trace.	none.	none.
Titanium.....	.....	.....	.....	.....	none.	none.

Cost of Making Bessemer Pig Iron at Greensboro, N. C.

Mining 1 3/4 tons 60% ore at 50 cts. per ton.....	\$.83
Freight 1 3/4 tons 60% ore, 40 miles, at 1/4 c. per ton per mile.....	.50
Coke, 1 1/4 tons, at \$1.65 f. o. b. at Pocahontas.....	2.07
Freight 1 1/4 tons coke, 245 miles, at 1/4 c. per ton per mile.....	1.53
Limestone 25c. Labor \$1.00.....	1.25
Maintenance 50c. Repairs 50c.....	1.00
Interest 25c. Salaries 50c.....	.75

Total cost ton of pig iron..... \$7.93

Bessemer pig iron can be made here at these figures (\$7.93 a ton) and there is no other place in America where it can be produced at a lower cost; but even if calculations be based on a cost of \$10 a ton, the profits would be more than satisfactory, whether the iron be shipped North or be manufactured into steel rails here, as is intended.

Besides this, "The North Carolina Steel and Iron Co." own about 2,000 acres of land in Greensboro, that they will lay off into Streets, Lots, Manufacturing Sites and Parks. This land was secured at very low figures, and inside of a year it will be worth more than the entire capital stock of the company, without any real estate booming.

GREENSBORO is now a prosperous town of 7,000 inhabitants, and has all modern improvements and many manufacturing enterprises.

The North Carolina Steel and Iron Co.

OFFERS A PART OF ITS

\$1,000,000 Capital Stock at Par.

BOOKS OF SUBSCRIPTION ARE OPEN AT

Davis & Wiley Bank, Salisbury, N. C.

The National Bank of Greensboro, Greensboro, N. C.

OFFICERS.

President,	-	-	-	-	JAMES A. ODELL.
Vice-President,	-	-	-	-	JULIAN S. CARR.
General Manager,	-	-	-	-	J. J. NEWMAN.
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Attorney,	-	-	-	-	THEO. F. KLUTTZ.

Executive Committee.

J. A. ODELL.	A. B. ANDREWS.	J. A. GRAY.
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SEND FOR PROSPECTUS.

MIDDLESBOROUGH,

✻══════════ KENTUCKY. ══════════✻

“The Wonder of the Age in Town Building.”

The Future Iron *and* Steel Center of America.

THE PASSAGEWAY FOR RAILROADS BETWEEN THE WEST AND THE EAST.

A SOURCE OF COKE SUPPLY FOR THE SOUTH AND WEST.

THERE ARE NOW UNDER CONTRACT:

A Basic Steel and Iron Plant, daily capacity 300 tons, to cost

\$1,000,000 and to employ about 1,000 hands.

An Iron Rod Mill; A Sheet Mill; A Nail Mill.

Two Coke Iron Furnaces, 150 tons daily capacity each, and one Charcoal Furnace.

A \$500,000 Tannery—the largest in the world.

Fourteen Coal Mining Enterprises, to employ about \$2,000,000 capital.

A Dozen Wood-Working Enterprises.

A Twelve-Mile Belt Railroad.

Tile Works, Fire and Building Brick Works, and a dozen or more other enterprises.

\$17,000,000

Already Invested in the Development of Middlesborough.

Other New Industries are Being rapidly added to those already in operation and contracted for.

COAL, IRON, TIMBER

AND OTHER RAW MATERIALS.

DELIGHTFUL AND HEALTHFUL MOUNTAIN CLIMATE,

WHERE MALARIA AND THROAT AND LUNG TROUBLES ARE UNKNOWN.

Elevation from 1,300 to 2,400 feet above the Sea Level.

SURROUNDED BY VALLEYS OF RICH AND PRODUCTIVE FARM LANDS.

SEND FOR CIRCULARS, PROSPECTUS, MAPS, ETC., TO

MIDDLESBOROUGH TOWN COMPANY,

MIDDLESBOROUGH, KY.

CHARLOTTESVILLE, VA.

OFFERS

Great Advantages and Liberal Inducements to Manufacturers

DESIRING TO LOCATE SOUTH.

Railroad Facilities, Cheap Rates and Rapid Transportation to all Points Unexcelled.

PERFECT CLIMATE.

UNLIMITED SUPPLY OF EXCELLENT WATER.

Gas, Electricity and Street Railway. Free Schools and Churches. Different Lines of Manufacturing Enterprises Already in Successful Operation Here.

A LIVE AND GROWING PLACE.

HOME CAPITAL WILL JOIN IN THE ESTABLISHMENT AND OPERATION OF FACTORIES.

COME AND SEE, OR WRITE TO **JOHN M. WHITE, President.**

CHARLOTTESVILLE INDUSTRIAL & LAND IMPROVEMENT CO., Charlottesville, Va.

CAMDEN,

The Capital of Kershaw County,
South Carolina.

This ancient and historic town is noted for its dry atmosphere, pure water, beautiful scenery, healthful climate and refined society.

It is the center of a rich agricultural country, which contains great natural resources. Hardwoods of many species are abundant, and great forests of long leaf pine, which impregnate the air with terebenthine odors. Several good hotels entertain travelers, and two are carefully conducted for the especial comfort of northern health and pleasure seekers.

Manufacturing of all kinds can be done here advantageously. Two railroads, the South Carolina and the Charleston, Cincinnati & Chicago, furnish transportation to all parts of the country. Two telegraph lines, the Postal and the Western Union, have offices here.

Churches and schools are numerous and well sustained.

A cotton mill company has been organized, and the first installment of twenty per cent. has been called in.

Land is cheap. The climate is salubrious, and subject to no extremes during the year.

Camden invites capitalists, manufacturers, pleasure and health seekers and sportsmen to visit the city and examine the advantages it offers to all.

All inquiries will be promptly answered by the undersigned, official representative of the intendand and warders.

DR. JOHN W. CORBETT

Or the President of the Board of Trade.

GEO. T. McWHORTER, Pres., Chickasaw, Ala.
JAS. M. ALLEN, Secretary, Waterloo, Ala.

Capital Stock \$200,000.

THE WATERLOO

Land, Mining & Mfg. Co.

WATERLOO, ALA.

(Lauderdale Co.)

Will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shoals and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be billed from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than any other town in Alabama (Chickasaw excepted). Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale counties lying in close proximity (5 to 10 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the State. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys and what inducements will be offered you to come. All questions truthfully and fairly answered.

For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

DENISON, TEXAS.

THE
Future Manufacturing and Commercial Center
OF THE
GREAT SOUTHWEST.

DENISON SUPPLIES THE COAL FOR TEXAS.

She has at her gates the only **COKING COAL** of any value in the Mississippi Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world, while to the north and Southeast are fields of **BROWN HEMATITE ORE** of the finest grade. These ores must meet the **COKE** and **COAL** at **DENISON** and there to be worked.

DENISON cannot be surpassed for **HEALTHFULNESS** and **BEAUTY** of location. Six divisions of railways terminate at Denison and are operated by her citizens.

DENISON has an abundant supply of pure, soft water and plenty of good, cheap **BUILDING MATERIAL**.

The attention of investors and those seeking advantageous locations for business or for manufacturing plants is invited to the opportunities presented at Denison.

MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND PROFITABLE INVESTMENT AND HANDLING OF CAPITAL

For information about **DENISON** and for bargains in **BUSINESS** and **RESIDENCE PROPERTY**, **ACRE PROPERTY** and **FARMS NEAR THE CITY**, write or call upon

MUNSON & BRO.

301 WOODWARD STREET,

DENISON, TEXAS.

SOME SPECIAL CLAIMS

POSSESSED BY

LIBERTY, VA.

TO THE FAVORABLE CONSIDERATION of all classes of prospectors, whether for homes, for investment of capital, for health, or for business enterprise. With the ensuing scholastic year will be opened the superb building of the Randolph Macon Academy, of which a cut is herewith presented. This institution is built for the thorough culture of boys—mental, moral and physical—is under the efficient management of Prof. W. W. Smith, LL.D., president of the Randolph Macon College at Ashland, Va., and has been constructed regardless of cost, to secure every condition essential to the successful attainment of its objects according to the most approved modern standards. Such another educational institution does not exist in the broad limits of the Southern States. In addition to this two handsome Female Academies, constructed upon the same intelligent, liberal and progressive principles as the Randolph Macon Academy, will be built during the coming year, and, if possible, receive pupils in September, 1890. Besides these, Liberty already possesses

shipping facilities and all the climatic, social, sanitary and pecuniary conditions requisite to the retention of skilled artisans once engaged in their employment. The manufacturers of tobacco, woolen goods, etc., already established here have found the local advantages so great that they have refused every inducement offered them to move to other points.

Every reasonable concession will be made to parties seeking locations for the establishment and operation of manufacturing plants, and upon application to the undersigned specific information will be furnished as to all details, both regarding the natural merits of the location, the character of raw materials within easy access and the terms offered to *bona fide* prospectors for sites.

Few better opportunities have been offered investors in Southern properties than the lands immediately adjacent to Liberty—lands possessing the intrinsic merit of natural fertility and productiveness in addition to close proximity to an embryo city.



RANDOLPH MACON ACADEMY.
LIBERTY, VA.

the usual quota of public and private schools, for which progressive Southern towns are noted.

These institutions insure an intellectual and moral tone in its society to the residents of Liberty that must give it pre-eminent attractions over mere manufacturing centers to the best class of settlers.

As a special recommendation to investors, Liberty possesses all the advantages of close proximity to the ore beds and coal fields of the famous mineral region of Southwest Virginia, is the county seat of Bedford, itself an unexplored mine of mineral wealth, representing granite, limestone, steatite, kaolin, the hematite and magnetite iron ores, asbestos, mica, graphite, mineral paints, fire-clay, &c.

Manufacturers would find here, within easy access and at low cost, all the raw materials used in their business. Cheap labor in great abundance, cheap fuel, excellent

blessed with all the elements essential to steady and permanent growth. Some of these lands are already in the hands of improvement companies and have been laid out in beautiful, wide, shady avenues and divided in lots to meet the requirements of those desiring to build or to invest on a modest scale.

Liberty invites the closest scrutiny of its claims and does not require to indulge in extravagance or deception. Its growth is inevitable. With a superb climate, grand and imposing scenery, a surrounding country of great productiveness, invigorating mountain atmosphere, an unlimited supply of the purest free-stone water, unsurpassed healthfulness, good society and the finest schools for both sexes, enterprising and successful manufacturers, close proximity to the markets of the world, cheap labor, cheap lands, excellent shipping facilities, it lacks nothing but more people to make it a model city.

For information address

{ J. LAWRENCE CAMPBELL, Secty. Liberty Improvement Co.
R. KENNA CAMPBELL, Manager Longwood Park, Va.

DENISON, TEXAS.

The "Yankee" City of the Southwest,

— AND —

✱ GATEWAY ✱

— TO THE —

GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, with six miles now building to be operated by steam motor; has two electric light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$3,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1888. 200,000 baskets of strawberries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has just been organized, and ground has been broken for a large fruit and vegetable canning factory.

A cotton mill company is being formed with a capital of \$500,000. Denison citizens have subscribed \$150,000 to this enterprise; Eastern capitalists will add \$350,000.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is being increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT COMPANY, DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President and General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS:

W. P. RICE, Kansas City, Mo.
J. M. FORD, Kansas City, Mo.
A. R. COLLINS, Denison, Tex.

B. J. DERBY, Burlington, Vermont.
PAUL LANG, Oxford, N. H.
M. V. B. CHASE, Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.
A. H. COFFIN, Denison, Texas.
JOS. B. LINCOLN, Boston, Mass.

FORT PAYNE, Alabama.

★ COME TO ★

The NEW ENGLAND CITY of the South.

Climate Unsurpassed. Abundance of Pure Water. Drainage Excellent.

No Better Point in the Union
For Safe and Profitable Investment.

Situated on the MAIN LINE of the QUEEN & CRESCENT ROUTE, fifty-one miles Southwest of Chattanooga, and ninety-one miles North of Birmingham.

Elevation is from 895 to 1,600 ft above the sea, and above fever districts.

DeKalb County is entirely free from debt; taxes light.
Most liberal encouragement given to industries of every kind.

Iron Furnace and Rolling Mill will be constructed immediately, and other industries of various kinds are under contract.

Correspondence solicited from those who contemplate coming into the South to establish any kind of manufactories.

The different industries will employ at least two thousand skilled workmen, which will secure a population of over ten

thousand, independent of the many industries contemplated.

Iron of the best quality can be manufactured at as low cost per ton as in any other locality in the South.

Coal and iron are being developed rapidly of a superior quality.

Fine timber abundant and wood-working machinery of every kind can be profitably employed at this point.

The Company is prepared to give every reasonable encouragement to manufacturers who will locate at this point.

✉ Correspondence solicited.

CAPITAL \$5,000,000.

OFFICERS.

President, - - -	COL. J. W. SPAULDING
First Vice-President, -	HON. D. H. GOODELL
Second Vice-President, -	HON. HENRY B. PEIRCE
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City, resides Fort Payne, Ala.

FORT PAYNE COAL & IRON COMPANY, Fort Payne, Ala.

200,000,000 TONS OF BROWN IRON ORE

IN SIGHT AT

BLUFFTON,

HIGH, HEALTHY AND HONEST.

GOOD PEOPLE AND GOOD WATER.

Cherokee County, Ala.

LOCATED UPON THE ALABAMA DIVISION OF THE EAST TENN. VA. & GA. RY. SYSTEM.

It is impossible to describe by words the enormous quantity of iron ore that is in sight on the land of this company. Said a prominent railroad man of the South: "I could not believe your statement as to the quantity, (200,000,000 tons in sight), but now that I have seen your ore deposits, I wonder how you put so low an estimate on them."

Prof. Robinson, of Bowdoin College, Brunswick, Maine, says: "I found at Bluffton iron ore in abundance, partly in solid cliff masses containing hundreds of thousands of tons, and partly in the form of gravel and small boulders lying in great banks similar in appearance to the gravel banks of New England. Whether there was as much of the gravel as of the bluff ore I could hardly judge, but it was very clear that the quantities of both were simply enormous."

G. S. Patterson, mining engineer, of Anniston, Ala., reports: "The amount of ore in sight was certainly beyond my expectation, though I was prepared to find a large deposit. The Bluff, as it is called, is a solid mass of ore on the side of a mountain, easily approachable, and can be mined cheaper than at any point in Alabama or Georgia, with which I am familiar."

Mr. Wm. H. Edmonds, of the Manufacturers' Record, says: "As to

the quantity of ore here, I don't suppose that all the furnaces in Alabama could use it up in a lifetime."—See Manufacturers' Record May 18, 1889 article entitled "BILL ARP AND BLUFFTON."

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.

With high grade ores, analyzing over 50 per cent. metallic iron, delivered at the furnace at the above-named price, is there any possibility of such a place as Bluffton not being able to produce iron at figures which will yield a profit despite the duldest of dull times?

Prof. J. H. Pratt, of Birmingham, Ala., reports on samples selected from our property by Mr. Edmonds and Mr. G. S. Patterson as follows:

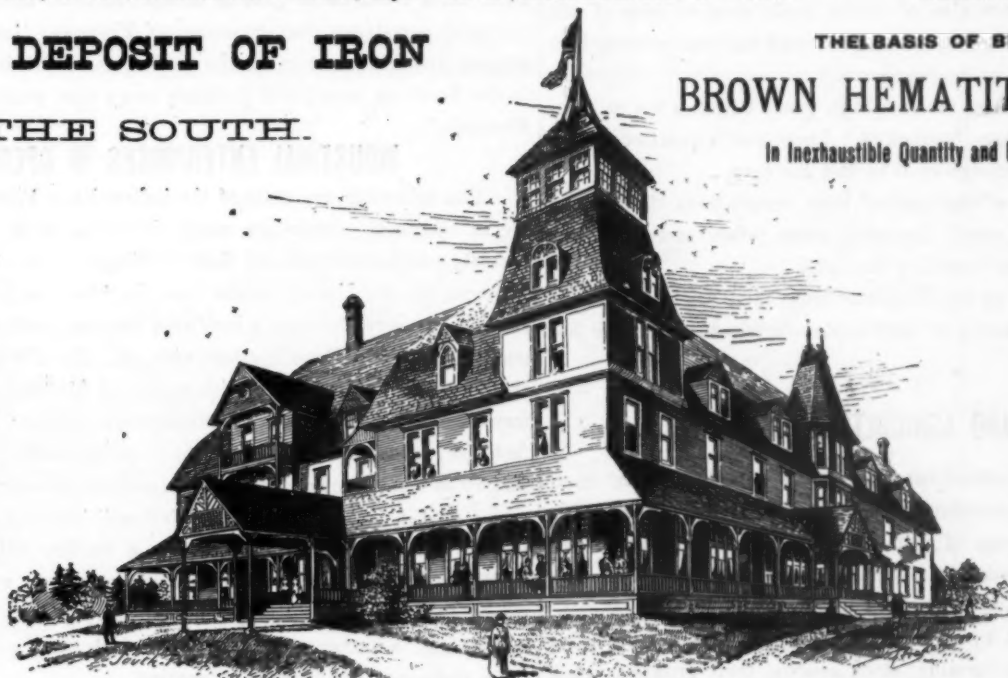
The sample of brown iron ore, marked "Bluff Ore," contains—	The sample marked "Gravel Ore" contains—
Metallic iron, - - 52.37 per cent.	Metallic iron, - - 53.23 per cent.
Phosphorus, - - - 0.782 "	Phosphorus, - - - 0.931 "
Silica, - - - - 14.60 "	Silica, - - - - 6.25 "
Water combined, - 8.10 "	Water combined, - 10.20 "
Moisture at 100° C - 2.50 "	Moisture at 100° C - 1.68 "

LARGEST DEPOSIT OF IRON IN THE SOUTH.

BROWN HEMATITE IRON ORE

In Inexhaustible Quantity and Excellent Quality.

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.



THE SIGNAL—NOW OPEN AT BLUFFTON.

Located on the Selma Division of the East Tennessee, Virginia & Georgia Railway, midway between Rome and Anniston, and only two miles and three-fourths from the East & West Railroad, of Alabama.

FREE MANUFACTURING SITES.

Rich Manganese Deposit.

There are several very large and rich outcroppings of Manganese Ore on the company's property, and the deposits have been examined by experts and pronounced exceedingly valuable. Specimens have been sent to various steel works in Pennsylvania, and the result is a large inquiry about the ore. From present development can be seen several hundred tons of this ore. There is always a ready market for manganese, and it is quoted at \$18 to 20 per ton in Pittsburgh and Chicago. More extensive work will be done on these deposits within a very short time, as the banks are easily accessible. Shipments will soon be made.

OTHER RESOURCES.

Fire Clay and Brick Clay—Yellow Ochre.

On this property are large deposits of fire clay, which has stood the highest test. Shipments have been made to Chattanooga, Tenn., and it is pronounced a superior quality. A fire brick works could be established here that would prove extremely profitable.

In brick clay there is an inexhaustible quantity, with an abundance of water running through the clay land. Brick manufacturing here would pay handsomely, and the company would lease the clay beds for a term of years at a very low royalty.

The four charcoal pig-iron furnaces surrounding this property are nearly as valuable to this place as if they were located on the land of the Bluffton Company. The pig iron manufactured by them could be bought and utilized here for every kind of manufactured iron. They are so near that freight on the raw material would be comparatively nothing. Surrounding us, as these furnaces do, it makes Bluffton a centre.

SEND FOR PROSPECTUS. ADDRESS

Bluffton Land, Ore & Furnace Company, Bluffton, Ala.

FACTS ABOUT FLORENCE.

LOCATION.

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

AGGREGATE OF ADVANTAGES.

There are many places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

IRON AND COTTON MANUFACTURING.

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the axe has never touched.

COMMERCIAL AND AGRICULTURAL FACILITIES.

Besides its industrial possibilities, Florence is a point of great commercial importance, and is becoming the center of an extensive mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Several additional railroads are now under construction to open up new trade connections to Florence.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c., as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

BEAUTY OF LOCATION.

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to either one of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Lauderdale Manufacturing Co. Florence Cotton and Iron Co.
Florence Investment Co. Florence Railroad and Improvement Co.

GROWTH.

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

SOLID GROWTH.

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

THIRTY NEW ENTERPRISES.

Within the last 12 or 15 months over 30 new industrial enterprises have been located at Florence, with an aggregate cash capital of about \$5,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

INDUSTRIAL ENTERPRISES IN OPERATION.

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: One of the largest and best furnaces in the United States now in blast, and another under construction; a stove factory; a hardware company, with a capital of \$300,000, manufacturing fine building hardware, &c., the only factory of the kind in the South; a wagon factory, with capital of \$150,000; agricultural implement works; handle factory; woodenware factory; sash, door and blind factories; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill in operation, and a \$500,000 mill building and others projected; a jeans factory; a gingham factory; a woolen mill; a cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; building and loan companies; a canning factory; brick factories; a dummy railroad company, and a number of other enterprises.

\$15,000,000 INVESTED.

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now about 10,000.

There are more than 1,000 carpenters at work in Florence but they can't build houses fast enough to keep up with the increase in population.

INVESTIGATION AND INVESTMENT.

A number of the foremost capitalists and iron and cotton manufacturers, and others, of Philadelphia, Boston and other Eastern cities, after a thorough personal investigation, have just made heavy investments aggregating several million dollars in Florence.

Florence, Ala.

Morristown, Tenn.

The Plateau City of the Great Valley of East Tennessee

is beautifully located on a plateau of Bay's Mountain, about equi-distant from the Cumberland Mountains which bound East Tennessee on the northwest, and the Alleghany Mountains which bound it on the southeast, and is 300 feet above Holston River, which washes the north base of the plateau three miles from the city. Its mean elevation above sea level is about 1,350 feet, while the hills and mountains immediately surrounding it rise to an altitude of 1,935 feet, affording views of surprising extent and grandeur, and at the same time so modifying the temperature that the thermometer rarely registers higher than 90° in summer or lower than 10° in winter. Its drainage is admirable, and malaria is unknown. It has nearly trebled its population since 1880, having now about 4,000 inhabitants. It is the commercial and business center of the richest and most extensive agricultural district in the State, where all the cereals and all the grasses

and tobacco are grown to perfection, and where fruits and berries abound. It has hundreds of thousands of acres of uncultured forests accessible to it, abounding in Poplar, Pine, Hemlock, six varieties of Oak, Chestnut, Hickory, Cedar, Maple, Birch, Beech, Sycamore, Gum, Locust, Laurel, Buckeye, Mulberry, Ash, Cherry and Walnut. The Celebrated East Tennessee Marble underlies a part of the city, and it is surrounded with rich deposits of Iron Ore, Manganese Ore, Zinc Ore and Lead Ore. It has been said by one who has made a study of the subject, that within a radius of 50 miles around Morristown every variety of iron ore in the United States can be duplicated, and a coke can be made equal to Connellsville coke. We claim without hesitation that Morristown has in its immediate vicinity richer mineral ores, and a greater variety of them, than any city on the Continent.

MORRISTOWN

has Railroad Facilities equal to any city between Lynchburg and Chattanooga, and they will be speedily increased by the completion of the Carolina, Cumberland Gap & Chicago Railway, making the shortest possible railway route between the great cities on the Ohio River, Cincinnati and Louisville, and the seaboard cities, Charleston, Port Royal and Savannah. Besides, the Baltimore & Ohio Railway will probably extend a branch to it from Lexington, Va., and the Tennessee Midland will in all probability be built to Morristown, and a line be built giving direct connection with Atlanta.



MAP SHOWING RELATION OF MORRISTOWN TO THE COUNTRY AT LARGE.

MORRISTOWN

has a citizenship composed almost exclusively of native born Americans. It boasts a splendid system of Graded Schools, Five Commodious Brick Churches, the finest Courthouse in Upper East Tennessee, an Opera House that will seat 600 people, two Solid Well Managed Banks, a flourishing Building and Loan Association, two of the Largest Commercial Flouring Mills in the South, Stove Works, an Agricultural Implement Factory, two Woodworking Factories, a Tobacco Factory, a Carriage and Wagon Factory, and many industries of lesser note.

It is lighted with electricity, and has water works under contract, and is now inaugurating a system of street railways. Its climatic advantages, its unsurpassed record for healthfulness, its abundance of pure water, its central and beautiful location, its transportation facilities, its fruitful agricultural surroundings, its contiguity to rich and exhaustless fields of iron, manganese, zinc and lead ores, marble, coal and timber, mark it as a place destined to be the commercial, manufacturing and railway emporium of Upper East Tennessee, Western North Carolina and Southeastern Kentucky.

To expedite this destiny the city authorities have wisely exempted from taxation for ten years all manufacturing establishments that will give employment to fifteen or more persons, and the county authorities have done the like, so that manufacturing establishments will be exempt from all taxation for ten years, except the merely nominal tax for State purposes. There has been no "boom" or inflation of prices at Morristown, and, as it possesses within itself and contiguous to it almost every element of wealth, it now presents the most inviting field for investment of any city in the South.

Persons who may desire fuller information can obtain it by calling on or addressing

MONTVUE LAND COMPANY

POSTOFFICE BUILDING, — MORRISTOWN, TENNESSEE.

NEW DECATUR,

ALABAMA.

The New Industrial City of the Great Tennessee Valley.

LOCATION.—In Morgan County, in the Cereal Belt of Northern Alabama, which includes the great valley of the East Tennessee river. It is at the threshold of Alabama, hence it is known as the Gateway City. It adjoins the old town of Decatur, on part of a tract of 5,451 acres of land purchased by The Decatur Land, Improvement & Furnace Company in 1887 for the purpose of laying out and building up a new industrial city.

RAILROADS.—It is at the junction of two great trunk lines, the Louisville & Nashville system running north and south and the Memphis & Charleston (part of the East Tennessee, Virginia & Georgia system) running east and west, affording direct communication with St. Louis, Evansville, Louisville, Cincinnati and all points further north, west and east, all the cities on the Atlantic Seaboard (north and south), Mobile, New Orleans and other points on the Gulf Coast, also Memphis and all points west of the Mississippi. The connections therefore are complete in every direction. A new road, the Decatur, Chesapeake & New Orleans R. R., intended as a connection with the Chesapeake & Ohio system, is now being constructed in a northeasterly direction, which will give New Decatur a new eastern outlet. The south end of the track is within 25 miles of New Decatur, where grounds for shops and freight yards have been already donated to the new road. The Rome & Decatur R. R., of Georgia, will be extended to New Decatur shortly, being now within 50 miles of that point. This will give a direct southeastern outlet to Brunswick, Savannah and other Southern ports on the Atlantic Seaboard.

RIVER TRANSPORTATION.—The improvements in the Tennessee river at Muscle Shoals, below New Decatur, upon which several millions of dollars and many years of labor have been expended by the government, are practically completed. The first steamer, the "A. C. Conn.," passed through the Shoals on November 12th 1889, on her way from Green Bay, Wis., to Chattanooga. The canals will be formally opened in May, when the Tennessee river will be opened to navigation from Knoxville, Tenn., to its mouth at Paducah, Ky., on the Ohio river (728 miles), with 6 feet of water from New Decatur to the Ohio. Paducah is 50 miles above the junction of the Ohio and Mississippi rivers, at Cairo. The Tennessee river drains one of the richest timber, iron, coal, cotton and agricul-

tural countries in the world. New Decatur will have an immense advantage over most of the industrial cities of the New South in being located on this great water highway.

POPULATION.—The population of old Decatur was about 1,200 when the new town was laid out in 1887, that of the two towns combined is now not far from 10,000, largely made up of manufacturers and mechanics.

CLIMATE.—New Decatur is about 700 feet above sea-level, on an elevated plateau free from malarial influences. Extremes of heat and cold are unknown. The air is delightfully pure, breezes are constantly in motion, and the nights are always cool. It is essentially a healthy place, and its climate renders it equally suitable for a summer or a winter resort.

PROGRESS.—The city has a complete system of sewerage, drainage and water supply, electric lights and gas, 60 miles of streets well graded and curbed and lined with young shade trees, a park system of 100 acres, 5 miles of street railways and a Union Railway Depot. The Land Company has expended over three-quarters of a million in cash in improvements, and donated 153 acres to industrial enterprises. A \$20,000 schoolhouse and three churches are nearly completed. The "Tavern" is one of the finest hotels in the South, built and furnished at a cost of \$140,000. There are 16 important industrial plants, exclusive of brick yards, lumber yards, saw mills and sash, door and blind factories, which are numerous. The principal plants are the Louisville & Nashville R. R. Shops, covering 58 acres; the United States Rolling Stock Company's works, covering 50 acres; the Decatur Charcoal Iron Furnace, of 70 tons daily capacity, the Decatur Charcoal & Chemical works; the American Oak Tanning Extract Works; Ivens & Son's Foundry & Machine Shops; the Decatur Cotton Compress; the Decatur Car-Wheel Works, etc. Building is going on rapidly.

INDUSTRIES NEEDED.—It is intended that New Decatur shall be a city of diversified industries. There is a grand opening for the manufacture of iron, wood and cotton in all its branches. The proximity of the vast forests of oak, poplar, ash, hickory, gum and other hardwoods along the river should be a special inducement to establish all kinds of wood manufactures. Another paying industry would be truck farming. The country around Decatur is especially adapted for truck and orchard farming and stockraising.

THE DECATUR LAND, IMPROVEMENT & FURNACE COMPANY will issue in a few days a beautifully printed and illustrated book, entitled

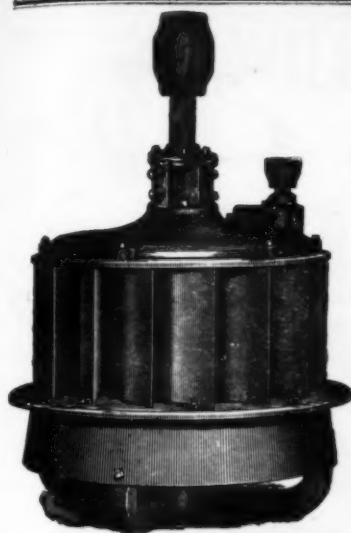
"ON THE BANKS OF THE TENNESSEE,"

Containing a map and 100 questions briefly but fully answered, giving all necessary information about Northern Alabama and New Decatur, for free distribution.

For Maps, Pamphlets and other Information about New Decatur, address

THE DECATUR LAND, IMPROVEMENT & FURNACE CO.

NEW DECATUR, ALA.



The VICTOR TURBINE

Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as shown in the Following Tests at Holyoke Testing Flume:

Size of Wheel.	Head in Ft.	Horse Power.	Per Ct. Useful Effect
15-inch.	18.00	80.17	.9000
17 1/2-inch.	17.90	88.26	.9000
30-inch.	18.51	48.00	.9000
36-inch.	17.90	66.60	.9000
50-inch.	11.00	52.54	.9070

WITH PROPORTIONATELY HIGH EFFICIENCY AT PART-GATE.

Such results, together with its nicely-working gate, and simple, strong and durable construction, should favorably recommend it to the attention of ALL discriminating purchasers. These wheels are of very Superior Workmanship and Finish, and of the Best Material.

THE VICTOR WHEEL IS PARTICULARLY ADAPTED TO SETTING ON

HORIZONTAL SHAFT, Dispensing Entirely With Gears.

STILWELL & BIERCE MFG. COMPANY

Send for new catalogue.

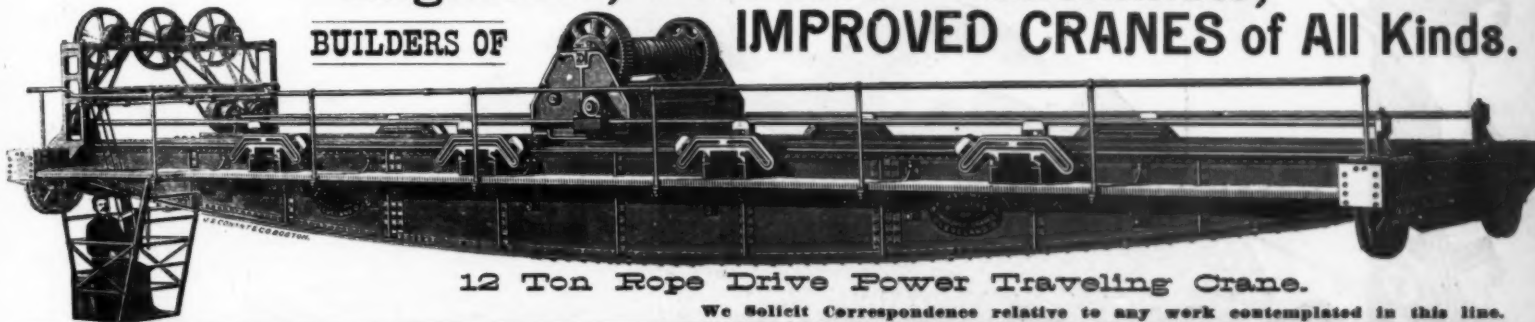
DAYTON, OHIO, U. S. A.

THE WALKER MFG. CO. CLEVELAND, OHIO,

Engineers, Founders and Machinists,

BUILDERS OF

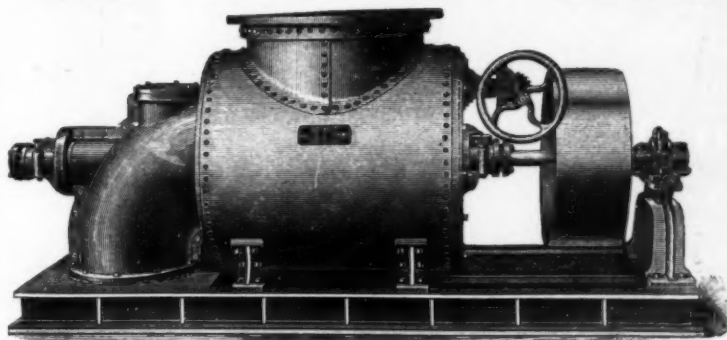
IMPROVED CRANES of All Kinds.



12 Ton Rope Drive Power Traveling Crane.

We Solicit Correspondence relative to any work contemplated in this line.

New American Turbine.



THE above engraving represents a single 16-inch NEW AMERICAN TURBINE, placed in a horizontal flume mounted on an iron bed. We are prepared to furnish two wheels in a flume of the same construction from 6-inch to 54-inch diameter, also vertical wheels from 6-inch to 66 inches. These wheels are admirably adapted to drive any kind of Machinery where steadiness of motion is required. For descriptive catalogues, address

STOUT, MILLS & TEMPLE, Dayton, Ohio.

RODNEY HUNT MACHINE CO.

ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS.

TURBINE WATER WHEELS, Vertical and Horizontal.

IRON FLUMES and PENSTOCKS, HEAD GATE GEARING, REGULATORS, and everything pertaining to Water Wheels and Mill Work.

These Wheels are superior for high power and efficiency, excellent workmanship and great durability. Tight closing gate; easily operated.

54 inch wheel tested in mill after running two years.	. . . . .	\$120
36 inch wheel at Holyoke Testing Flume.	. . . . .	\$110
30 inch wheel at Holyoke Testing Flume (another wheel).	. . . . .	\$700
30 inch (deep wheel) at Holyoke Testing Flume.	. . . . .	\$481

PART GATE.

30 inch wheel at Holyoke Testing Flume.	. . . . .
Proportional quantity of water, 7/8, one-half gate opening.	. . . . .	\$643
Proportional quantity of water, 2/3, one-third gate opening.	. . . . .	\$783

Used in many of the largest Manufacturing Establishments in the United States. 6,000 horse-power furnished one mill, 7,000 to another, 2,000 in one cotton mill, and one manufacturer 60 wheels. All now running.

CATALOGUE FREE.

BOSTON OFFICE: 70 Kilby Street.

ORANGE, MASS.

RIEHLE'S TESTING MACHINES & SCALES.

RIEHLE BROS., Store, 12 Market St. Works 9th above Market, Falls. New York Store, 96 Liberty St.



HOOPES & TOWNSEND,
PHILADELPHIA,

—AND—
THE HOOPES & TOWNSEND CO.
WILMINGTON, DEL.

MANUFACTURERS
Machine and Car Bolts.

Keystone Boiler Rivets made in Solid Dies.

Cold Punched, Chamfered, Trimmed and Drilled, Square and

HEXAGON NUTS.

Bridge Rivets,
Split and
Single Keys.

WASHERS,
Tank and Coopers'
RIVETS.



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No. 26 LIGHT STREET, BALTIMORE, MD.

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WOOD-WORKING



Machinery.

Engines, Boilers, Duplex Pumps, Lathes, Planers, Drill Presses, Pulleys, Shafting, Hangers, Belting, &c.

Railroad and Mill Supplies, Machinists' Tools, Etc.

THE LARGEST
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NEVER
EXCELLED

THE HARRINGTON & KING
PERFORATING CO.

MANUFACTURERS OF
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OF ALL KINDS
FOR
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and all other uses.
CHICAGO, ILL.
U.S.A.

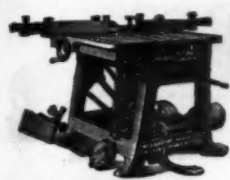
ROLLING
SCREENS

SPECIAL
PERFORATIONS
FOR
COTTON SEED
OIL MILLS.
RICE MILLS.
ETC.
MACHINERY
AND
ROASTING
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COFFEE

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MILLS,
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SUGAR REFINERIES,
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WORKS, GAS and WATER WORKS,
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IN THE
WORLD.

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Com. Saw and Dado Mach.

WILLIAMSPORT MACHINE CO. Limited.

Cor. West 3d and West Streets, Williamsport, Pa.

MANUFACTURERS OF



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Improved WOOD-WORKING Machinery.



Gang Ripping Machine.



"Happy Thought" Planer and Matcher.



Door and Blind Clamp.

LEVI HOUSTON, Wood-Working Machinery.

Planers, Matchers, Panel Planers, Moulders,
Slat Saws, Stickers, Boring Machines, Tenoners, Swing Saws, Mortisers,

Panel Raisers, Sash Dovetailing Machines,

SAND PAPERING MACHINES,

Blind Rabbeting Machines, Etc.

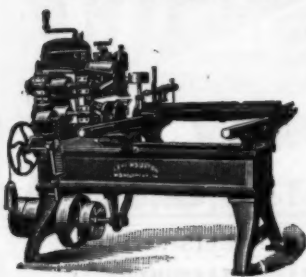
On the Philadelphia & Erie and Philadelphia & Reading Railroads.

MONTGOMERY,

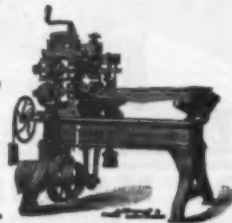
Lycoming Co., Pa.



SASH MORTISER.



DOOR TENONER.



SASH TENONER.

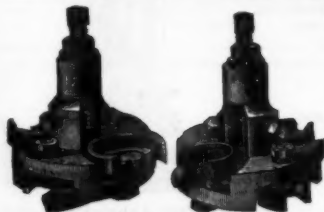


DOOR MORTISER.

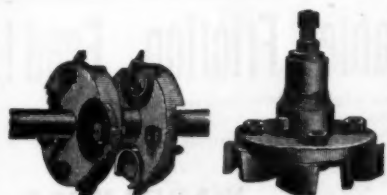
THE SHIMER MATCHER HEADS

The Cheapest! The Strongest! The Most Durable!

AND YET THE LIGHTEST AND EASIEST RUNNING MATCHER HEADS
IN THE WORLD. UPWARD OF 25,000 SOLD.



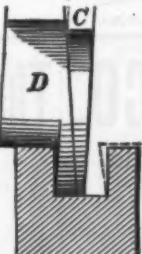
FLOORING MATCHER HEADS.



BOX BOARD MATCHER HEADS.

JOINTER HEAD.

The Bits are arranged in upper and lower series, and secured to a Head having seats alternately inclined for the purpose of giving the side clearance to their cutting points. This explains why these Bits hold their shape and turn out standard work until used up; the entire circle of Bit being tool cutting edge. This diagram represents a Bit (D) in the position it occupies when making a cut; the Bit (C) which follows to complete the work, is given in outline.

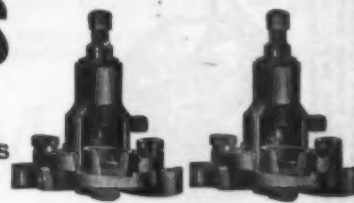


This explains the division of cut and the easy working of the tool. They finish hard, cross-grained and knotty lumber neatly, showing clean cut edges, and often save their cost in one day's run.

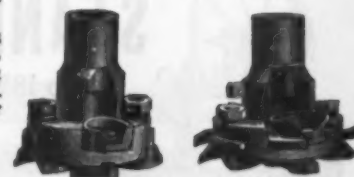
We also make SHIP-LAP HEADS, JOINTER HEADS, DADO HEADS, SASH HEADS, DOOR HEADS, COPE HEADS, and Heads for any special work where a perfectly uniform pattern is required. Send for Descriptive Circular.

Samuel J. Shimer,

Milton, Penn.



SHIP-LAP HEADS.



DOOR HEAD.

SASH HEAD.



Wood Working Machinery



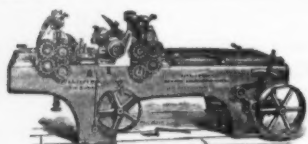
COMPLETE OUTFITS FOR PLANING MILLS

H. B. SMITH MACHINE CO.

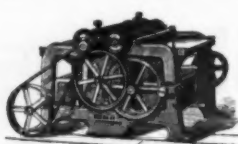
Send for catalogue and visit our extensive
warerooms if possible.

925 MARKET STREET.

PHILADA, PA., U. S. A.



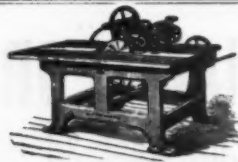
No. 2½—Pacific Planer and Matcher.



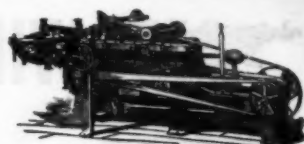
No. 4½—Smoothing Planer.



Horizontal Borer.



No. 2—Self-Feed Rip Saw.



No. 3—Molding Machine.

No. 2
Fret Scroll Saw.

W. H. DOANE, Pres't.

J. A. FAY & CO.

D. L. LYON, Sec'y.

CINCINNATI, OHIO.

Manufacturers of
—PATENT—**Improved Wood-Working Machinery**

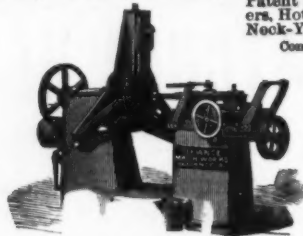
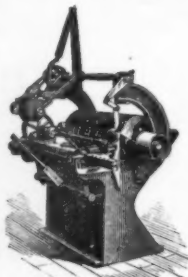
OF EVERY DESCRIPTION,

For Planing Mills, Sash, Door and Blind Shops, Furniture, Carriage and Wagon Factories,
Spoke, Wheel and Agricultural Works, Car Shops, etc.No. 3
Band Saw.**"AWARDED SPECIAL GRAND PRIZE AT THE GREAT PARIS EXPOSITION OF 1889."**Every Machine Tested and
Warranted. Send for Cir-
culars and Estimates.**DEFIANCE MACHINE WORKS, Defiance, Ohio. ESTABLISHED 1850.**

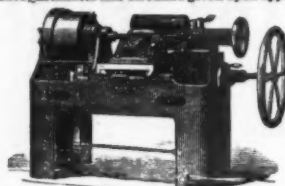
Manufacturers of HUB, SPOKE, WHEEL, BENDING, WAGON AND CARRIAGE MACHINERY,

Patent Flow-Handle Benders, Shapers, Cut-Off Saw and Revolving Polish-
ers, Hot-Form, Double and Single Bent Pole and Express Shaft Benders,
Neck-Yoke, Singletree, Brush Handle, Lathes and Finishing Machines.

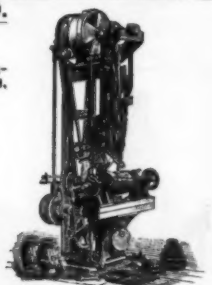
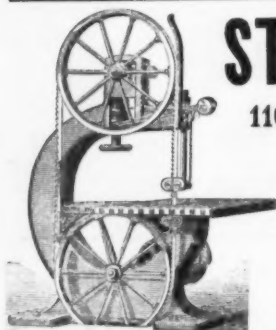
Complete Outfits Furnished, Estimates and Circulars given upon application.

Patent Automatic Combined Spoke
Turning and Squaring Machine for
common, seven patent, or sharp-
pointed spoke turning. Capacity 2,500
per day.

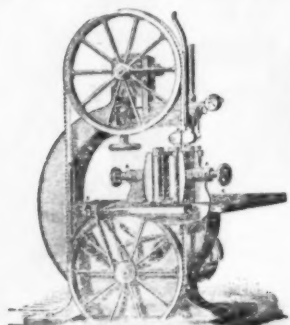
Wheel Boxing Machine.



Patent Hub Turning Machine.

Patent Automatic Double-
Chisel Hub Mortising Ma-
chine. Built in three sizes.\$80 will buy the best Band Saw in the world.
\$100 will buy our new patent 40-inch Band Saw.\$100 will buy the best Automatic Rip Sawing
Machine, (weather-boarding attachment
included) and Saw.
\$125 will buy our New No. 2 Self-Feed Rip Saw
complete as above.

MANUFACTURERS OF

**High Grades
OF
Machinery.**\$185 will buy our New Patent Band
Re-Sawing Machine.**PETER GERLACH & COMPANY, CLEVELAND, OHIO.**

Manufacturers of

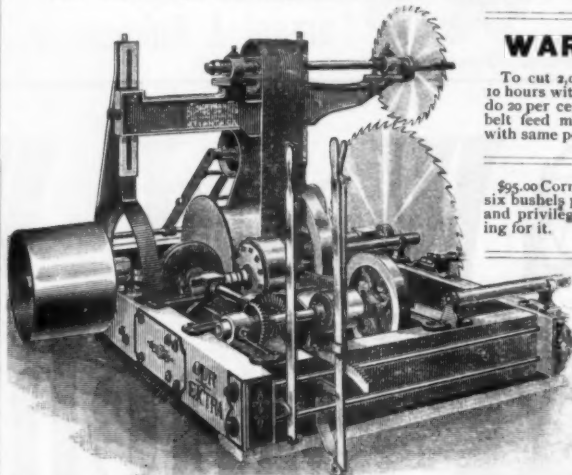
Alligator Chisel-Bit Saws,

The CHAMPION STAVE, HEADING and SHINGLE MACHINES. Ice Tools and Mill Supplies.

The DeLoach Variable Friction Feed!

Five Sizes are made to cut as high as 100,000 feet per day.

Our Late Improved Dog stands head and shoulders above all.

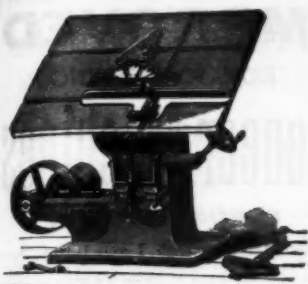
**WARRANTED**To cut 2,000 feet board lumber in
10 hours with 4 H. P. engine and to
do 20 per cent. more work than any
belt feed mill in the United States
with same power.\$95.00 Corn Mill warranted to make
six bushels per hour fine table meal
and privilege of testing before pay-
ing for it.Send for catalogue of
Saw Mills,
Corn and Flour Mills,
DeLoach Turbine
Water Wheels,
Improved Saw Mill Dog,
Mill Gearing, Etc.**DeLOACH MILL MFG. CO., ATLANTA, GA.****The Detroit Saw Works, Detroit, Mich.**

Manufacturers of PATENT GROUND

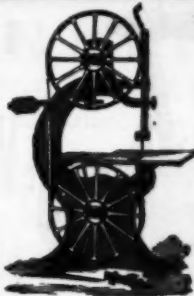
Circular and Band SAWS,

MILL, MULAY, DRAG AND GANG,

Moulding Knives, Etc. Dealers in Saw Mandrels, Emery
Grinders, Files, Belting, Gummers, Emery Wheels
and Mill Supplies. Correspondence Solicited.



Variety Saw.



No. 8 Band Saw.

THE EGAN COMPANY

228 to 248 W. Front Street,
CINCINNATI, O.

MANUFACTURERS OF

Wood-Working Machinery.

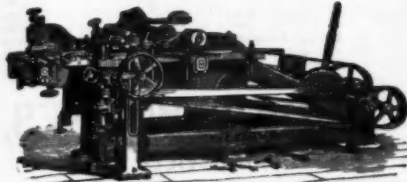
The Largest Line in the United States. Complete
Outfits Furnished. Write for catalogue and prices.



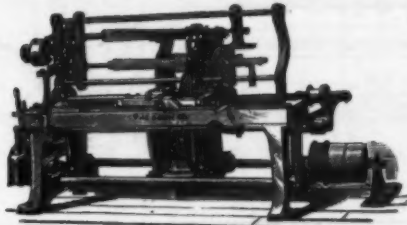
No. 3 Scroll Saw.



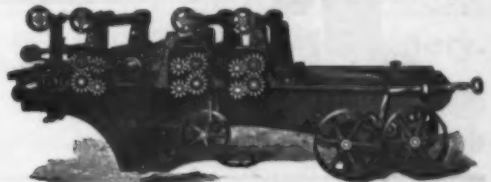
Horizontal Boring Machine.



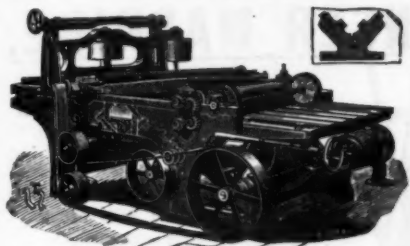
Standard Molders, 7, 8, 9 and 10 inch.



Automatic Spoke Lath.



No. 7 Planer and Matcher.



Diagonal Planer and Polisher.

ROWLEY & HERMAN

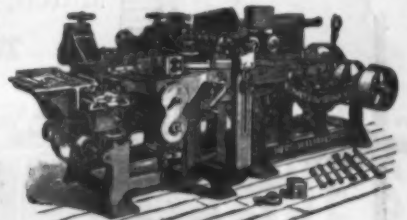
WILLIAMSPORT, PA., U. S. A.

Manufacturers of the Finest and Most Complete Line of

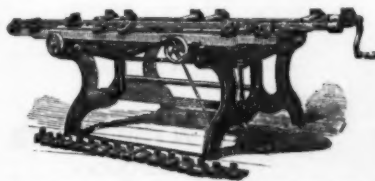
Wood-Cutting Machinery

IN AMERICA.

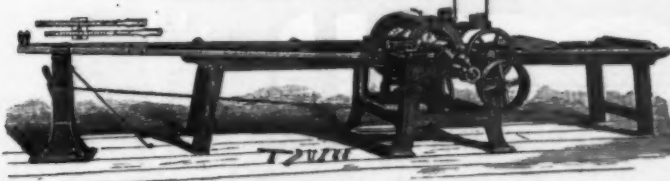
Write for Illustrated Catalogue and Special Prices.



Improved 9-inch and 10-inch Moulder.



Patent Door and Blind Clamp, with or without Sash Attachment.

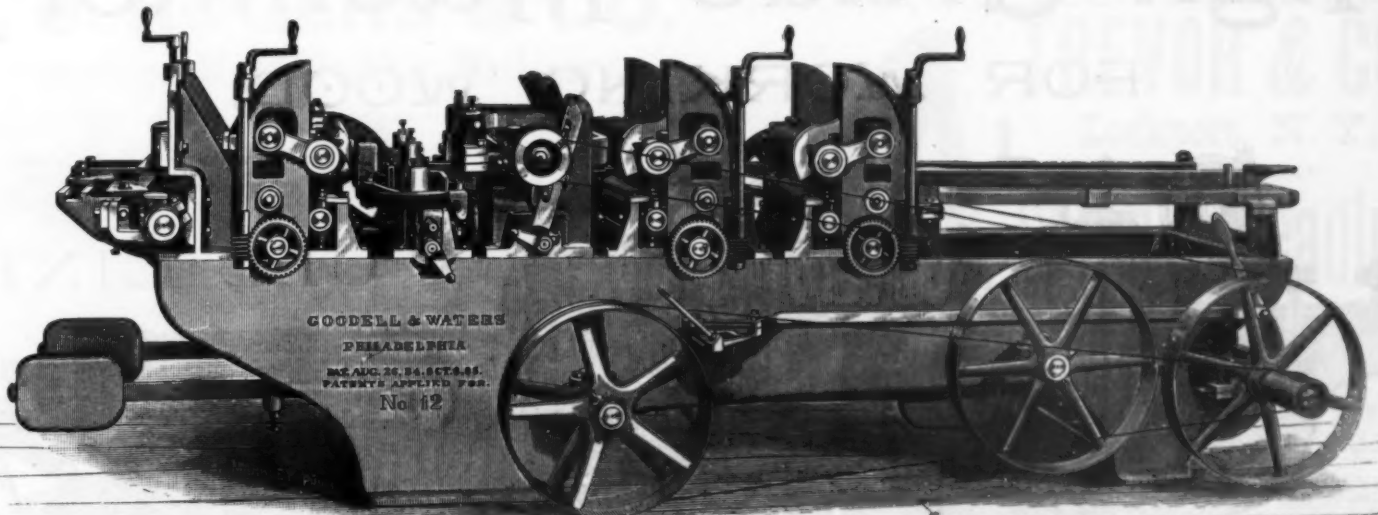


No. 2 New King Power Feed Gang Rip Saw.



Phillips Patent Sash Clamp.

No. 12 Six-Roll Planer and Matcher.



ANOTHER SPECIALTY of a series of new machines that are eminently successful. The No. 12 is pronounced by one of the leading mill men of Philadelphia to be the easiest running and most conveniently adjusted machine on the market. Cheap machinery is costly in the long run. We pride ourselves on excellent workmanship, perfect designs and the best materials obtainable; all that goes to make the quality of our product. We are having a lively run on this machine, and you will be satisfied that our claims to superiority are well-founded, when you examine the merits and good points about it. We solicit your correspondence.

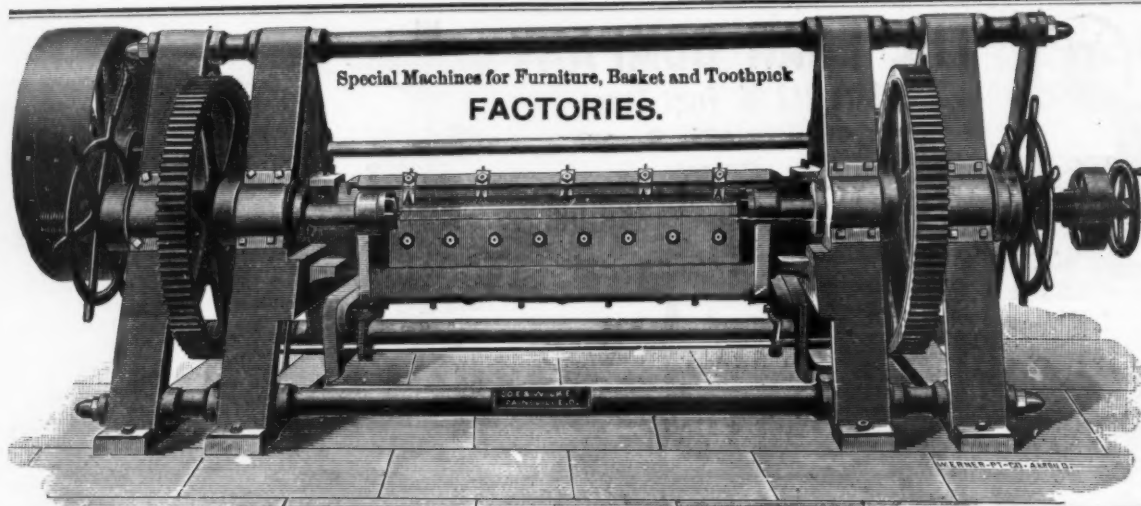
GOODELL & WATERS,

IN THE WEST.

MAKERS.

Chicago and San Francisco.

3002 Chestnut Street, PHILADELPHIA.

**IMPROVED**

ROTARY-CUTTING

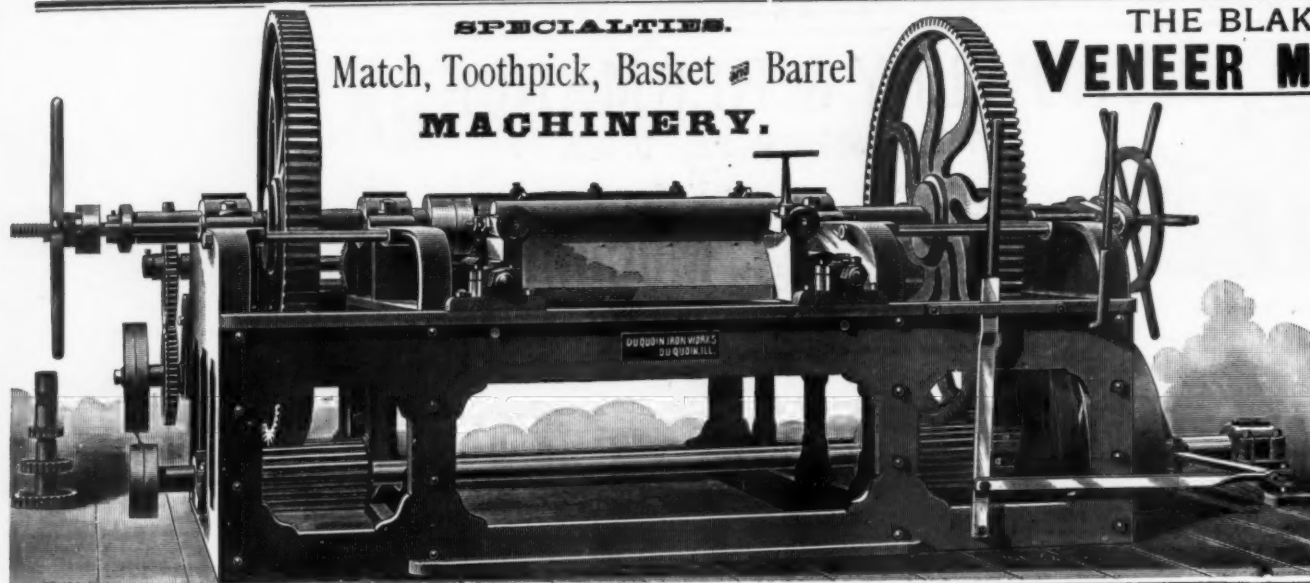
Veneer Machines**STRONG, SOLID,**

Durable, Accurately Made, Double Drivers, Positive Feed, Completely Adjustable. AUTOMATIC CHANGE OF PITCH varies the pitch of knife to the varying size of log, always holding it in position to do the smoothest, soundest cutting on all sizes of log and thickness of cut—the perfection of cutting. Built in all sizes within practicable limit. Adapted to the production of all kinds of thin-cut lumber. Also builders of Clippers and Rolling Cutters for Dimension Veneer Stock and Special Machinery. Send for circulars.

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PAINESVILLE, OHIO.

SPECIALTIES.

Match, Toothpick, Basket & Barrel
MACHINERY.



THE BLAKESLEE
VENEER MACHINE.

The Most Practical
in the market.

MANUFACTURED IN SIZES
TO MEET ALL RE-
QUIREMENTS.

We also make Veneer
Slicers and other
Specialties.

Correspondence Solicited.
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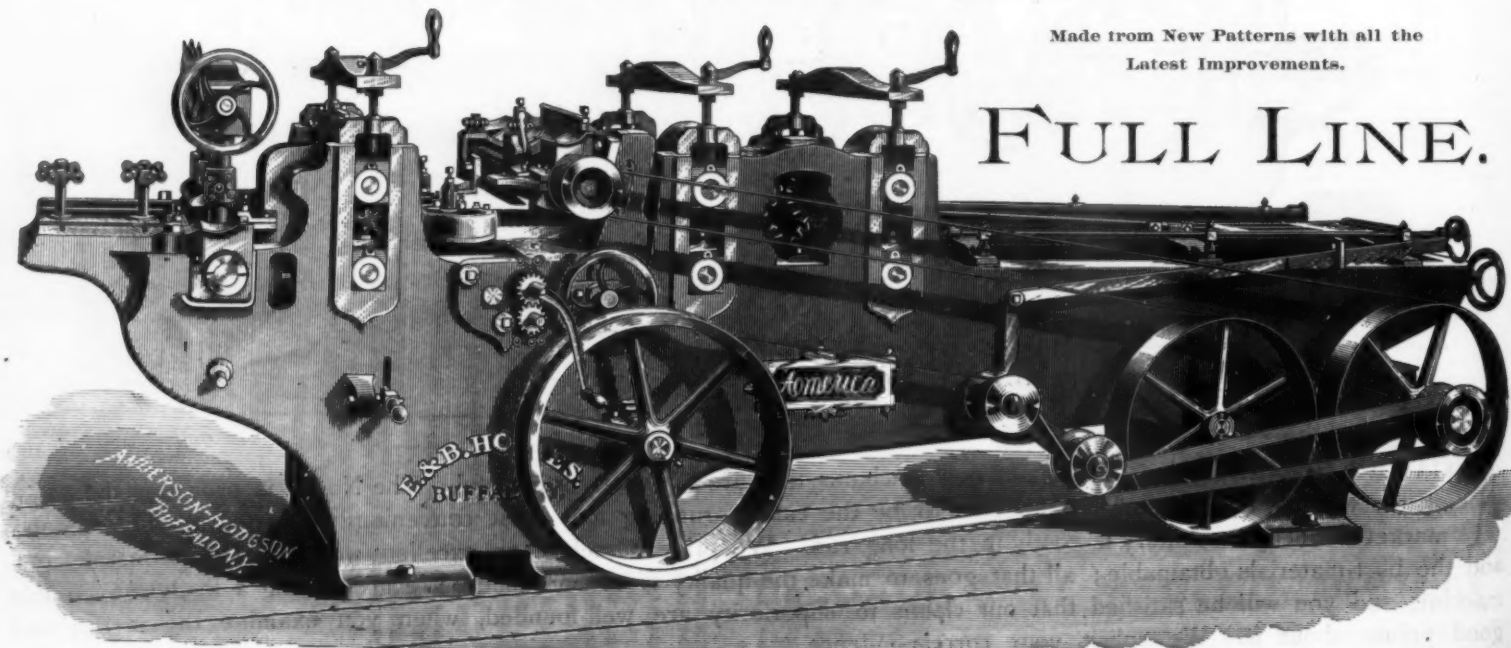
Du Quoin Iron Works,
DU QUOIN ILL.

G. F. BLAKESLEE, Prop'r.

High-Grade Machinery

FOR WORKING WOOD.

Made from New Patterns with all the
Latest Improvements.

FULL LINE.

COMPARE OUR MACHINERY WITH OTHER MAKES.

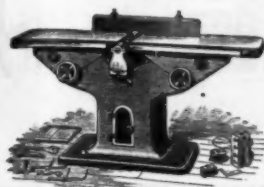
EVERYTHING GUARANTEED AND SOLD ON ITS MERITS.

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BUFFALO, N. Y., U. S. A.

CORDESMAN, MEYER & CO.

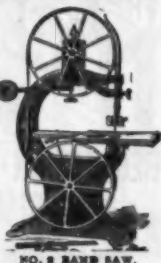
171 & 173 W. SECOND STREET, CINCINNATI, OHIO.



FINE GRADES OF LATEST
Wood-Working Machinery
OF EVERY DESCRIPTION.

Planing Mills, Furniture and Chair
Factories, Carriage, Wagon
and Agricultural Works.

Write for our latest catalogue and price-
list. Correspondence solicited.



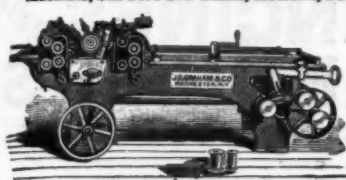
UNIVERSAL WOOD-WORKER.

NO. 2 BAND SAW.

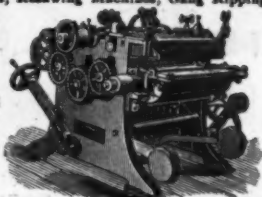
J. S. GRAHAM & CO.

261 LYELL AVENUE, ROCHESTER, N. Y.

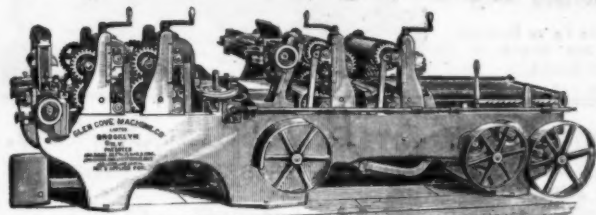
Manufacturers of Planers and Matchers, Surfers, Timber Planers, Resawing Machines, Gang Ripping
Machines, Self-Feed Saw Tables, Moulders, Pony Planers, Etc.



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**GLEN COVE MACHINE COMPANY, Limited,**

MANUFACTURERS OF

Improved Planing Mill Machinery.

Office & Works,
34 CLAY ST.
Brooklyn, N. Y.

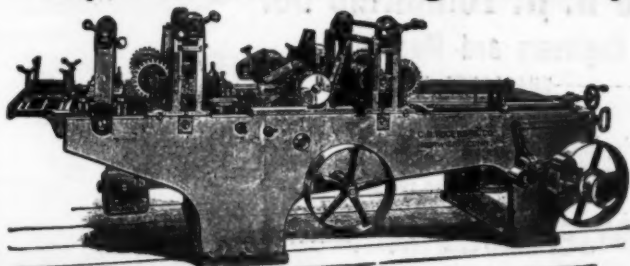
No. 1.—24-Inch Patented Fast Feed Planing and Matching Machine.

SPECIALTIES: Fast-Feed Sizing, Planing and Matching, Flooring
and Ceiling, Inside Moulding and Double Surfacing Machines; also the
celebrated GLEN COVE DOUBLE DECKER and GLEN COVE SPECIAL.

C. B. ROGERS & CO.

MAKERS OF Improved Wood-Working Machinery.

PLANERS.



MOLDERS.

MORTISERS, TENONERS, BAND AND SCROLL SAWS, &c.

Office and Works, Norwich, Conn.

Wareroom, 109 Liberty Street, N. Y.

THOS. K. CAREY & BROS., AGENTS, BALTIMORE, MD.

S. A. WOODS MACHINE CO.

Manufacturers of and Dealers in

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Planing and Moulding Machines a Specialty.

Send for new Illustrated Catalogue just issued.

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Wood-Working Machinery

We at present are making a specialty of manufacturing

Improved Jointers

OR

Hand Planers,



Combination Cut-Off Saws

AND

Self Feed Rip Saws.

These machines are the best on the market. Correspondence solicited.

LEHMAN-EVANS MACHINE CO.

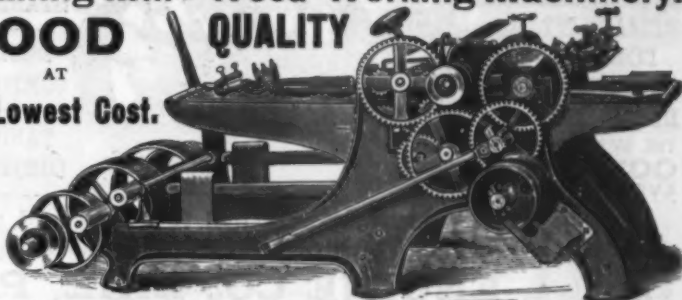
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WILLIAMSPORT, PA.

Planing Mill Wood-Working Machinery.**GOOD QUALITY**

AT

Lowest Cost.

Write for circulars
and price list.**JOSIAH ROSS, Buffalo, N. Y.**

Price, \$140.00,

WITH 36-INCH SAW

**ROGUE'S**

IMPROVED

SELF-FEED

SHINGLE,

BOX BOARD

AND

Head Cutting

MACHINE,

Manufactured by

S. ADAMS & SON, ROME, N. Y.

This machine will cut 4,000 shingles in an hour, and from suitable b'cks can make 80 shingles per minute.

Write for Circular No. 25, giving full particulars and cash discount. Cuts shingles up to 24 in. in length.

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Lockport, N. Y.

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Shingle, Heading

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STAVE MACHINERY

HEADING SAWING MACHINES,

HEADING TURNERS,

HEADING JOINTERS,

VENNER CUTTING MACHINES,

STAVE EQUALIZERS,

STAVE CUTTERS,

SHINGLE JOINTERS,

SHINGLE SAWING MACHINES,

DRAW SAW MACHINES,

HANDLE MACHINERY.

Lathes for turning handles for Brooms, Mops,

Forks, Hoops, Axes, Picks, Hammers, Cant

Hooks, and for Ball-Bats, Heavy-Stocks, Pike

Poles, Spokes, Etc.

If you want machinery for

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Venner Cutting, send for our

catalogue "A." If you want

Handle Machinery send for

catalogue "B."

Please say where you saw

this advertisement.

(Improved Law's Patent Heading and

Shingle Sawing Machine.)

**National Hardware and Malleable Iron Works.**

Tackle Blocks, Door Locks, Cleats, Thimbles and Awning Fittings

MADE OF THE BEST MALLEABLE IRON GALVANIZED

MALLEABLE, SOFT GREY IRON and STEEL CASTINGS

ALL KINDS OF FITTING AND FINISHING

THOS. DEVLIN & CO., Lehigh Ave. and Third St., Phila. Pa.



Valley Automatic Engines.

Applicable to any and all uses requiring Close Regulation and Economical use of Steam. They are constructed throughout of selected material and finished in the best possible manner. Guaranteed to equal any of their class extant in Economy, Regulation, Durability and General Efficiency.

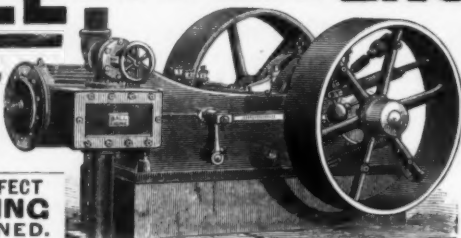
VALLEY IRON WORKS,
MANUFACTURERS,
WILLIAMSPORT, PENNA.

WM. H. BRUNDIGE & CO., Sales Agents, Chattanooga, Tenn.

BALL AUTOMATIC ENGINE CUT-OFF ENGINE

RELIABILITY,
ECONOMY,
SIMPLICITY,
DURABILITY.

THE MOST PERFECT
GOVERNING
EVER OBTAINED.



STANDARD

DOUBLE
COMPOUND

TANDEM
COMPOUND

For Electrical Lighting, Electrical Railways and purposes where perfect governing is required, it has no equal.

BALL ENGINE CO., ERIE, PA.

ECLIPSE CORLISS ENGINES.

Frick Company, Engineers, Builders,
—WAYNESBORO, PA.—

40 to 1,000 H. P.
Made.

Condensing, Non-Condensing & Compound.
Send for Corliss Circular.

Ice-Making and Refrigerating Machinery.
Send for Ice-Machine Circular.



Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines, Saw Mills. Send for our General Catalogue

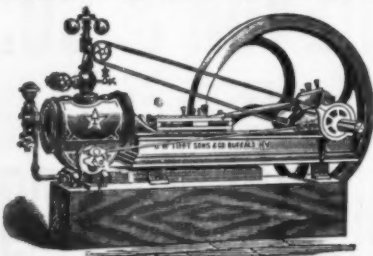
FOR THE LOWEST-PRICED FIRST-CLASS ENGINES & BOILERS

ADDRESS

GEO. W. TIFFT, SONS & CO.
BUFFALO, N. Y.

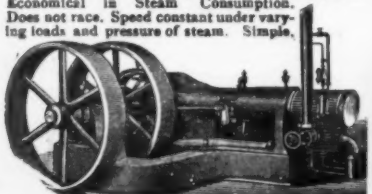
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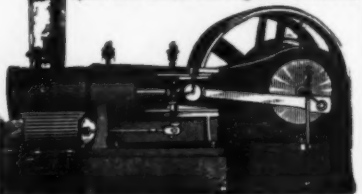


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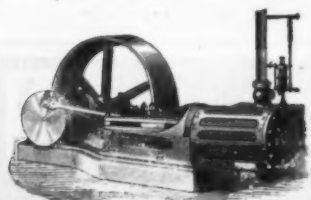
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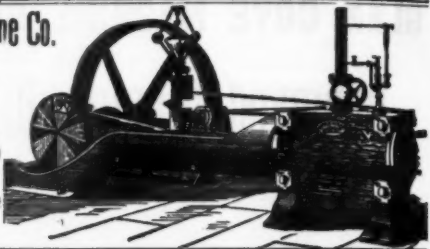
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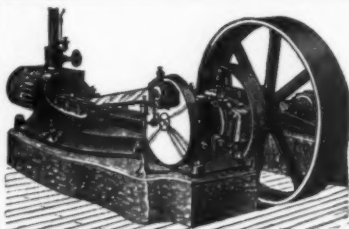
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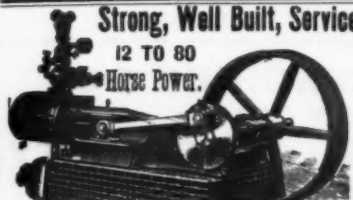
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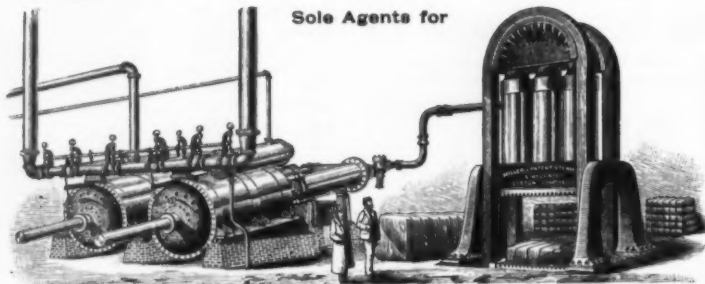
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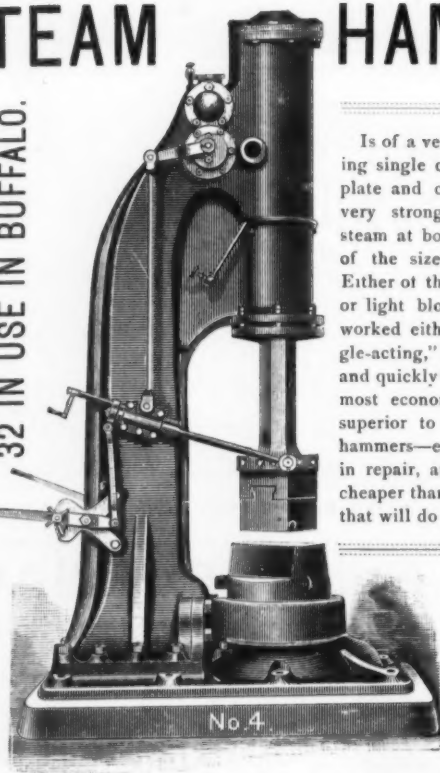
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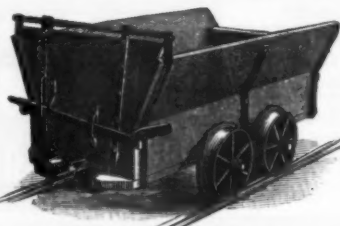
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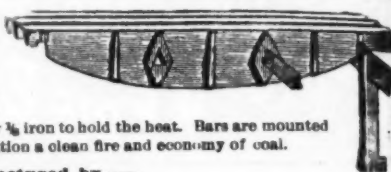
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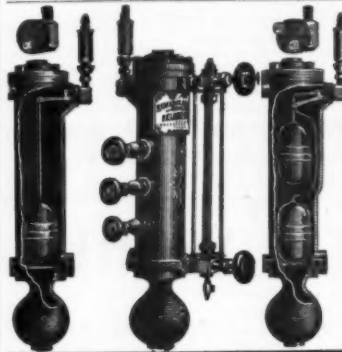
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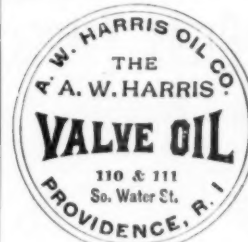


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Southern Railroads.

Railroad Building in 1889.

The South continues to hold its commanding position as the center of the greatest activity in railroad construction. During 1889 the total new mileage for the whole country was 5,231 miles, of which 2,296 miles were in the South. Thus the South built 43 per cent. of the entire mileage constructed in the whole country last year. From the Railway Age, of Chicago, we have gathered the new mileage by States in 1889, and, adding these figures to the totals for 1888, we have the following comparison:

The railroad mileage by States in the South at the end of 1888 and 1889 was as follows:

States.	1888. Mileage.	1889. Mileage.
Maryland and D. C.	1,040	1,234
Virginia	1,593	3,176
West Virginia	691	1,330
North Carolina	1,486	2,744
South Carolina	1,427	2,120
Georgia	2,459	4,284
Florida	518	2,424
Alabama	1,843	3,148
Mississippi	1,127	2,416
Louisiana	652	1,614
Arkansas	859	2,089
Texas	3,244	8,551
Tennessee	1,543	2,650
Kentucky	1,539	2,753
Total	20,562	40,541

The Greatest Scheme of the Age.

The boldest scheme of the age is before the Virginia legislature asking for sanction of its plans in the form of a charter. This scheme, briefly described, is one to establish closer steamship relations between the United States and South America, and to build a railroad from the mouth of the Magdalena river, in the United States of Colombia, along the base of the Andes mountains to the southern extremity of South America, and to build branches and feeders to the road wherever business may warrant it. The scheme is almost too vast to be comprehended, yet it is a feasible one, and one that must of necessity be consummated by another quarter of a century.

A few moments' careful consideration of this subject will show of what vast importance such a project would be to the South in every way. It would create such a demand for manufactures of cotton, wood, iron and steel as the South has never known. These are manufactures which the South will soon lead the world in, and she will thus not only have the advantage of being able to supply these products to the new markets cheaper than any other people, but also be nearer to the source of demand than any other manufacturing community, and thus have the advantage of short transportation.

A NEW STEEL COMPANY—LOUISVILLE, KY., Dec. 26, 1889.—The International Steel Co. has been incorporated with an authorized capital stock of \$1,000,000. Its object is to produce a high grade of steel from a low grade, doubling the tensile strength at a small cost. It is accomplished by means of baths of carbo-hydrates. No machinery will be needed, as the process can be applied in any steel works on small royalty.

YOUNG E. ALLISON.

Railroad Construction

Aberdeen, N. C.—Railroad.—The Aberdeen & West End Railroad Co., previously mentioned, will, it is stated, extend its road to Candor, N. C.

Athens, Ga.—Street Railroad.—The street railroad previously mentioned will be extended a mile. John T. Voss is general manager.

Bastrop, La.—Railroad.—The New Orleans, Natchez & Fort Scott Railroad Co. has signed a contract to build its railroad through Bastrop, provided that Richland parish votes the tax. An election will be held on January 14 to decide the latter question.

Bristol, Tenn.—Railroad.—Joseph H. Sands, general manager, denies the report that the Norfolk & Western Railroad Co. has made a proposal to the English syndicate previously mentioned, which will operate at Embreeville, to construct a railroad from Bristol to Embreeville via Elizabethton.

Camden, Ark.—Logging Road.—The Lester Lumber Co. is building a narrow gauge logging road.

Charleston, S. C.—Railroad.—It is reported that the Charleston Bridge Co. will construct a railroad to be operated in connection with its bridge which crosses Ashley river.

Charleston, S. C.—Railroad.—The Carolina Southern Railway Co. has been incorporated by W. G. Childs, James Woodrow and others. Capital stock is \$1,000,000.

Cheraw, S. C.—Railroad.—The Cheraw & Sumter Railroad Co. has been incorporated.

Clarksdale, Miss.—Railroad.—It is reported that the Louisville, New Orleans & Texas Railroad Co. (office, Memphis, Tenn.) will make their extension mentioned last week, from Vicksburg (Redwood) to Yazoo City, a part of a projected branch to extend from Clarksdale to Vicksburg via Greenwood and Yazoo City, a distance of about 140 miles.

Danville, Va.—Railroad.—The construction of a 60-mile railroad from Danville to Pittsboro, N. C., is being agitated.

Edenton, N. C.—Railroad.—The Branning Manufacturing Co. has purchased the Cashie & Roanoke (narrow-gauge) Railroad extending from Austin to Lewiston, a distance of 30 miles.

Fernandina, Fla.—Railroad.—The Florida Central & Peninsular Railway Co. denies the rumor mentioned last week that it will double-track its road to Dunnellon.

Florence, Ala.—Dummy Railroad.—The West Florence Co. will, it is reported, construct a dummy line across the Tennessee-river bridge to Sheffield.

Hollister, Texas.—Tram-road.—Arthur Hutchins, of Nona, mentioned elsewhere in this issue as purchasing the Hollister Saw Mill, will build a tram-road.

King's Point, Tenn.—Railroad.—If the marble quarries mentioned elsewhere in this issue are developed, a railroad will be built.

King's Creek, Tenn.—Railroad.—The Roane County Iron Co. will, it is stated, construct an 8-mile railroad to the ore deposits on South Side.

Little Rock, Ark.—Railroad.—The Arkansas & Gulf Railroad Co. has been re-incorporated with a capital stock of \$1,500,000 to construct an 85-mile railroad from a point on the Arkansas State line, in Chicot county, to Pendleton, Ark. John D. Adams and Logan H. Roots, of Little Rock, are among the incorporators.

Malvern, Ark.—Railroad.—The Ouachita Falls Lumber Co. will construct a railroad to Rockport.

Marietta, Ga.—Railroad Cross-ties.—E. G. Pierce, superintendent of construction Marietta & North Georgia Railway Co., invites proposals for furnishing 100,000 cross-ties.

New Orleans, La.—Belt Railroad.—A bill has been introduced to incorporate the New Orleans Elevated Railway Co. to build a belt railroad and erect a union station.

Paris, Ky.—Street Railroad.—The Paris Street Railway Co. has been organized to build the railroad previously reported.

Princeton, Ky.—Railroad.—It is stated that the Ohio Valley Railway Co. (office, Evansville, Ind.) will extend its line from Princeton to Nashville, Tenn.

Roanoke, Va.—Street Railroad.—The Roanoke Street Railway Co. will, it is reported, extend its line from Vinton to Salem.

Selma, Ala.—Railroad.—It is rumored that the Birmingham, Selma & New Orleans Railroad Co. will extend their road from Martin to some point in Marengo county.

Sheffield, Ala.—Railroad.—It is stated that if the negotiations of A. H. Moses for the establishment of a large factory at West Sheffield are successfully closed, a narrow-gauge railroad will be built to the factory site.

Shreveport, La.—Electrical Railway.—The Shreveport Railway & Land Improvement Co.

has reversed its decision and will adopt the overhead system instead of the storage battery system, as was previously reported.

Texarkana, Texas.—Railroad.—John P. Hughes writes to the MANUFACTURERS' RECORD stating that he has not secured the contract to build the Texarkana & Northern Railroad, previously reported.

Tunnel Hill, Ga.—Railroad.—The Caloosa Mining & Land Co. has let contracts for the construction of a standard-gauge railroad to its manganese mines.

Winston, N. C.—Electrical Railway.—The report last week as to the sale of the plant of the Winston Electric Light Co. has been confirmed. The Sprague Electric Railway & Motor Co. (office, New York city) has purchased the entire plant, charter and franchises and will shortly build and equip a street railway.

IRON HOUSES.

A New Opening for Iron.

The construction of iron houses has just been commenced in England, and the probabilities are that before long they will be used extensively in the United States. Iron is becoming an all-important factor in buildings of every description, and the innovations which are being made cause the old-timers and the people who have been on earth since 1825 to gaze upon the works of the present age with the most profound astonishment.

The Queen of England has recently had a pavilion erected which formed an ornamental feature of the Windsor show. It is placed upon a basis of hard concrete, so that her majesty may be able to enjoy her meal almost in the open air without risk of dampness.

The success of this building has given an impetus to iron houses.

In this connection a recent issue of the London Standard says:

"Mr. Gladstone, we are informed, is having an iron library erected at Hawarden. It is to contain 16,000 volumes. The house contains five rooms, the largest one measuring 41 feet by 21. Cases are being made to hold 20 tons of books. Mr. Gladstone intends the library for quiet study, and therefore proposes to admit only a few persons at a time. These houses are put together like a child's puzzle, and can be taken apart, compactly packed and removed elsewhere. A large number of iron villas have been sent from the works at Albert-gate to the Riviera, and there erected upon plots of land purchased or rented for a term of years. When the lease expires the houses can be packed up and removed. There is beginning to be a demand for iron bungalows as marine residences in England. The rapidity with which they can be built, and their small cost, as compared with the ordinary dwelling of brick and stone, are recommendations which tell in their favor.

The possibility of having a house built in a month to the buyer's own plan and ready for occupation as soon as finished, seems almost incredible. The pretty Welcome club at the Italian and American exhibitions was made of iron, and its cost—£300—will give some idea of the comparative prices of brick and iron. It was covered with trellis work, which imparted a picturesque and rural aspect to the outside. In its uncovered state the corrugated iron cannot be said to be ornamental, but the trellis work embellishes it at a small cost. It is suggested by the manufacturers that thatching the roofs with heather would add to the pictorial effect, and also give additional protection to the roof. Heather from Bourne-mouth thus applied would last for fifteen years or more. The thatching would aid in keeping the house cool in summer and warm in winter, though this double desideratum has already been secured by the air spaces between the outer iron walls and the inner ones of felt and pine wood.

It is now feasible to add an additional room to the ordinary brick dwelling-house,

where such accommodation is needed. Being removable, it is the property of the tenant, so that the objection felt by most people against building for the ultimate benefit of one's landlord does not hold good in such a case. Stabling and coach houses can, in the same way, be temporarily erected. As a play-room and school-room for children, a detached iron building communicating with the house by a covered way would frequently prove a boon to the brain-working father of the family, and in times of illness it would be possible, by this means, to isolate a patient completely from the other members of the family.

There is no damp to be apprehended in an iron house. A useful present to a village would be a iron play-room, which could be built in a week. A building costing £200 can be erected in a fortnight. The price of a room measuring 30 feet by 13 feet would be about £50. The cost of removal is from £5 upward. With this novel architecture it would be possible to reside in one's own house at a different seaside resort in England every year by having an iron house removed in this way. The brick work chimney is preferred to any other by the builders of iron houses, no mode of heating being so wholesome as the open grate, with direct ventilation. There are other methods of warming rooms, and some of them are sufficiently satisfactory when the ventilation has been properly secured. The drainage can be worked on the usual plan, if this be preferred to the simpler mode recommended by the originator of the iron houses."

President S. S. Marvin, of the Exposition Society, has been an enthusiast upon iron buildings ever since Machinery Hall was rushed to completion as an exhibit of energy of Pittsburgh builders and a showing of the local resources in such lines. It will be remembered that a great discussion was engendered by his letter to Mayor Grant, of New York, during the incipency of the World's Fair boom, in which Mr. Marvin suggested that buildings modeled after the style of Machinery Hall and combining its many and marked advantages would be just what New York wanted. Mr. Marvin still advances and emphasizes that opinion. His remarks have a spice of prophecy about them which makes them still more interesting to a public whose whole future may be said to hinge upon the possible ramifications of the iron and steel trade. Mr. Marvin was shown the item published in the London Standard, and after reading it closely he said:

"We are only entering upon the 'iron age,' although very few people appreciate that fact. You may not see it realized, and in all probability none of us will; but within the next hundred years iron houses will no doubt be in universal use. I have always been in favor of using iron buildings whenever feasible, and some time ago I sent a letter to the mayor of New York, in which I advocated the use of iron buildings for the World's Fair. They are portable, durable and in every way answer the purpose of buildings of brick and mortar. They will be used by tenants on land which cannot be purchased from landlords, and will also be used extensively in suburbs of large cities.

Now take, for instance, Machinery Hall at the Pittsburgh Exposition, which was erected at a cost of \$110,000. It covers just one acre of ground, and from that you can see what an ordinary dwelling would cost. The iron plates are 14x6 feet, and can be taken down, shipped to any part of the United States and put up again in a few weeks.

The main building of the exposition cost \$225,000 and the new foundations alone cost \$65,000. From this some relative idea can be gleaned of the difference between brick and mortar and a building made of iron.

An iron dwelling-house can be erected at much less expense than one of brick, and there is no reason why they should not be more popular. They are warm, clean, dry and fire-proof, and should be favored, especially for small dwellings, instead of stone or brick."—Pittsburgh Dispatch.

Southern Financial News.

NEW BANKS.

Abbeville, S. C.—The Farmers' Loan & Trust Co. of Abbeville County has been incorporated.

Alexander City, Ala.—The Alexander City Bank has been incorporated by J. C. Maxwell, A. J. Coley and others; capital stock \$50,000.

Baltimore, Md.—A meeting of the Bank of Commerce will be held on February 4 for the purpose of taking action in regard to the increase of its capital stock and conversion into a national bank.

Clarksburg, Ark.—The Bank of Clarksburg has been established with C. L. Ryle, cashier.

Clifton Forge, Va.—It is reported that another bank is to be started.

Gallatin, Tenn.—The establishment of another bank in addition to the one mentioned in last week's issue is being talked of.

Greensboro, Ala.—An Alliance Bank is being established.

Liberty, Va.—It is stated that a national bank will be organized.

Milledgeville, Ga.—It is stated that a savings bank is to be organized by T. L. McComb and others. The Merchants & Planters' Banking Co. has been incorporated by Sam'l Walker, G. C. Smith and others.

Paris, Ky.—The Trust & Safety Vault Co. is being organized with a capital stock of \$75,000 by E. F. Clay, Buckner Woodford and others.

Pensacola, Fla.—It is rumored that another bank will be organized.

Savannah, Ga.—The Citizens' Bank has declared a dividend of \$2.50 a share, payable after January 6.

Tampa, Fla.—L. R. Benjamin and D. B. Barnes are organizing a bank with \$50,000 capital stock, which they will endeavor to increase to \$100,000.

Washington, D. C.—A bank to be called the Lincoln National Bank is soon to be started. Augustus Burdett, F. W. Pratt and John A. Prescott are among the incorporators.

Washington, D. C.—The West End National Bank is the name of the institution mentioned some weeks ago as to be established. Wm. R. Riley is president.

Wheeling, W. Va.—The Wheeling Title, Trust & Safe Deposit Co. has been incorporated with a capital stock limited to \$500,000. W. P. Hubbard, H. M. Russell and others are the incorporators.

A meeting of the Florence Education & Land Development Co. will be held on the 6th of January for the purpose of securing money by a mortgage or otherwise, proceeds to be used in erecting a college building.

Anniston, Ala.—The Anniston Gas & Light Co., recently mentioned as having created a \$150,000 mortgage, will meet on January 24, 1890, to consider the issuance of bonds for the same.

Atlanta, Ga.—The city of Atlanta has issued \$125,000 of 4 per cent. bonds, all of which will be taken by the Atlanta National Bank.

Baltimore, Md.—The People's Bank has declared a semi-annual dividend of 2 per cent. and the Bank of Commerce a 2½ per cent. semi-annual dividend; the German American Bank, a semi-annual dividend of 3 per cent.; the Merchants' National Bank, a semi-annual dividend of 4 per cent.; the Third National Bank, a semi-annual dividend of 3 per cent.; the National Bank of Baltimore, a semi-annual dividend of 4½ per cent.; the Traders' National Bank, a semi-annual dividend of 3 per cent.; the Drovers' & Mechanics' National Bank, a dividend of 3 per cent.; the Commercial & Farmers' National Bank, a semi-annual dividend of 3 per cent.; the Franklin Bank, a semi-annual dividend of 2 per cent.; the Citizens' National Bank, a semi-annual dividend of 3 per cent.; Howard Bank, a dividend of 20 cents per share on assessed and 10 cents per share on unassessed stock.

Bids will be received at the city auditor's office, Richmond, Va., until January 6 for the purchase of \$150,000 of 4 per cent. bonds, payable on January 1, 1924.

Birmingham, Ala.—The Birmingham-Ensley Land & Improvement Co. will shortly issue \$30,000 of bonds, proceeds of which are to be devoted to enlarging and improving works.

Brunswick, Ga.—The First National Bank has declared a semi-annual dividend of 4 per cent. and the Oglethorpe National Bank one of 3 per cent. for the same time.

Danville, Va.—The Merchants' Bank has declared a dividend of 6 per cent on the earnings for 1889.

Edgefield, S. C.—The town of Edgefield contemplates issuing bonds for the purpose of retiring indebtedness, etc.

Gainesville, Ga.—The First National Bank has declared a dividend of 6 per cent. on the business for the past eight months.

Havre de Grace, Md.—The First National Bank has declared a dividend from earnings of past six months.

Knoxville, Tenn.—The city council of Knoxville has refused to issue the bonds to the Knoxville, Cumberland Gap & Louisville Railroad Co., as agreed upon, on the alleged claim that the railroad had not fulfilled its part of the contract.

Loudon, Tenn.—The Bank of Loudon has declared a semi-annual dividend of 4 per cent.

Louisville, Ky.—The Falls City Bank has declared a 3 per cent. semi-annual dividend, and the Falls City Insurance Co. a semi-annual dividend of 4 per cent.

Lynchburg, Va.—The Commercial Bank has declared a semi-annual dividend of 4 per cent., and the Lynchburg National Bank a dividend of 5 per cent. for the same time.

New Orleans, La.—The Germania Savings Bank has declared a semi-annual dividend of 4 per share.

Raleigh, N. C.—The State National Bank has declared a dividend of 5 per cent.

The Salem Improvement Co., Salem, Va., has declared a dividend of 80 per cent.

Theodore Harris and others, mentioned elsewhere in this issue as to operate paper mills at Louisville, Ky., will, it is said, issue \$200,000 of 6 per cent. bonds.

Williston, S. C.—The town of Williston contemplates issuing bonds for the purpose of erecting a public school building.

A GOOD INVESTMENT.—The Richmond Ice Machine Co., of Richmond, Va., makers of one of the most practicable and simply constructed ice machines on the market, seeks additional capital to increase its business, particulars of which will be found in our advertising columns. A large and most profitable amount of business is already in hand, insuring, it is said, large dividends from the first. The par value of the shares is only \$25 and the terms of assessment most liberal. A few advantages claimed for this machinery are: The engine, being of the horizontal type, is easily got at. The ammonia pumps being vertical, secures even wearing of valves. Engine and pumps connected to one shaft and on one solid bed plate to prevent side motion. One of the greatest advantages possessed is in the perfect circulation of the brine in the freezing tank, which keeps every inch of freezing surface working up to its maximum point of efficiency. The suction valve of the compressor is all in one piece, and so arranged that it is impossible for it to get loose or be crushed, or break the pump. The ammonia couplings are absolutely gas-tight. All ammonia coils are made of extra strong pipe, all material and workmanship first-class, and all working parts to gauge and template. Simplicity in every detail, so that any man who can run a steam engine can run this machinery.

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.

BALTIMORE, Jan. 2, 1890.

	BID.	ASKED.
Virginia 3's, new	66	67
Virginia Consul Coupons, N. F.	20	..
N. Carolina 4's	95	96½
Ga. Car. & N. 5's	102½	103
Wil. Col. & Aug. 6's	115½	..
Atlanta & Char. 1st 7's	117	120
Atlanta & Char. Income 6's	104½	..
Col. & Green. 2d 6's	82	..
Va. Midland, 2d 6's	117	118
Va. Midland, 3d 6's	110	112
Va. Midland, 5th 5's	100½	100¾
Char., C. & Aug. 1st 7's	117	..
Char., C. & Aug. 2d 7's	117	..
Ga. Pacific 2d	80½	80¾
Cape Fear & Y. Valley 6's, A.	103	103½
Cape Fear & Y. Valley 6's, B.	101	101½

Foreign Exchange Quotations.

ALEXANDER BROWN & SONS.

BALTIMORE, Jan. 2, 1890.

Sterling—		Commercial.
60 days.....	480	478½@479
3 days.....	484	..
Francs—		Commercial.
60 days.....	521½	525@526½
3 days.....	518½	..
Reichmarks—		Commercial.
60 days.....	94½	93½
3 days.....	95½	94½
Gulders—		Commercial.
60 days.....	40½	39½
3 days.....	40½	39½

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Orders executed in New York and Boston for buying and selling stock of the

Anniston City Land Co.

We are prepared to carry same on MARGIN.

We make a specialty of all

Southern Securities.

GLADSTONE-BLAINE NUMBER.

A considerable portion of this issue being devoted to the Gladstone-Blaine discussion, the number of pages has been increased to make room for the usual variety of articles.

THE JANUARY NUMBER

OF THE

North American Review

CONTAINS A DISCUSSION

BETWEEN

RT. HON. W. E. GLADSTONE

AND

HON. JAMES G. BLAINE,

ON

FREE TRADE and PROTECTION.

JEFFERSON DAVIS, on

GENERAL R. E. LEE.

Prof. R. H. THURSTON, on

THE BORDER-LAND OF SCIENCE.

C. K. TUCKERMAN, on

BY-GONE DAYS IN BOSTON.

CAMILLE FLAMMARION,

HOW I BECAME AN ASTRONOMER.

MARY A. LIVERMORE,

AMELIA E. BARR,

ROSE TERRY COOKE,

JENNY JUNE,

ELIZABETH STUART PHELPS

IN A WOMAN'S SYMPOSIUM ON DIVORCE.

RODOLFO LANCIANI,

A ROMANCE OF OLD ROME.

Count EMILE DE KERATRY,

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RICHMOND, VA.

Our MANUAL OF INVESTMENTS, the largest publication of the kind published by any banking house in the United States, may be had upon application by parties interested.

Richmond Stock Exchange Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers, Richmond.

RICHMOND, VA., Dec. 31, 1889.

	BID.	ASKED.
North Carolina 4's, 1910	95	96
North Carolina 6's, 1919	121	122
Virginia New 3's, 1932	68	68½
Lynchburg, Va., 5's, 1915	103½	..
Petersburg, Va., 5's, 1918	103½	..
Norfolk, Va., 5's, 1911	104	..
Richmond, Va., 5's, 1922	113	116
Atlanta & Charlotte Ry., 1st 7's, 1907	122	..
Atlanta & Charlotte Ry., 2d 6's, 1900	104	105
Char., Col. & Aug. R.R. 6's, 1932	109	..
Georgia Pacific Ry., 1st 6's, 1922	113½	114½
Georgia Pacific 2d 5's, 1923	80½	80¾
Ga. Pacific Income, 5's	..	31
Petersburg Railroad Class A 5's, 1926	104	108
Petersburg Railroad Class B 6's, 1926	106	107
Rich. & Danville R. R. Gold 6's, 1915	118	..
West. N. Car. R. R. Gen. 6's, 1914	95	99
Northwestern N. Car. R. R. 1st 6's	101½	102
Atlanta & Charlotte R. R. Stock	89½	90½
North Carolina Railroad Stock	101	111½
R., F. & Pot. R.R. Div'd Obligations	110½	111½
Virginia Midland Railway Stock	37½	40½
Sloss Iron & Steel Co. Stock	61	..
Sloss Iron & Steel Co. 1st 6's	95	..
Sloss Iron & Steel Co. 2d 6's	74	..

TO THE STOCKHOLDERS

OF THE

Atchison, Topeka & Santa Fe Railroad Co.

In April last we asked you to intrust to us your proxies, to be used at the annual meeting of the company in May. This resulted in a change of management, the introduction of reforms and economies, and a financial reorganization of the company that has met general approval.

During the progress of this reorganization it has been frequently suggested in the public press, and by numerous and large holders of the company's securities, that it would give greater stability to the reorganized company, if a management committed to the successful working out of the plan of reorganization, and absolutely in the interest of the property, could be secured for several years.

Consulting our own inclination and convenience, we would prefer to leave the management of this great property to others; but we recognize the force of the suggestion and the necessity for some such arrangement, and, as many shareholders believe that great advantages are likely to result to the holders of all classes of the company's securities from such co-operation, we have consented to act in the matter.

Holders of Stock of the Atchison, Topeka & Santa Fe Railroad Company may deliver their certificates, assigned upon the back in favor of George C. Magoun, Thomas Baring, Oliver W. Peabody and John J. McCook, to the BOSTON SAFE DEPOSIT AND TRUST COMPANY, 87 Milk Street, Boston, subject to an agreement that the title to such Stock and the voting power thereon shall be vested in our nominees or their successors; also to be named by us, for ten years, or until July 1, 1900.

The Trust Company will issue Stock Trust Certificates, entitling the holder to all the beneficial interests and advantages belonging to or growing out of the deposited shares, and to the return of a like number of shares when the term of the trust has expired, unless the same shall be further extended by the respective parties in interest.

Applications will be made to have the Trust Certificates above referred to listed upon the New York, Boston and London Stock Exchanges.

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 tiveness of its work, and is about the only machine in the market where all
 the plant is on one floor. The ice made by this machine is so transparent
 that a newspaper can be read through a block 11 inches in thickness.
 Our machines now at work are giving entire satisfaction. The capital
 already subscribed and paid up amounts to \$27,500, and the Company's
 books are now open for subscriptions to \$50,000 more. The par value of
 the stock is \$25, to be paid for as follows: \$5 per share at the time of
 subscription, \$5 per share in 30 days, and \$5 per share in 60 days. The
 remainder on call of the Board of Directors—no call to be greater than \$5
 per share, nor to be made within 30 days of any previous call. No business
 has made such rapid growth in the South as that of manufacturing ice,
 and we can recommend the stock of the Company as a first class paying
 investment to large or small capitalists.

We are now building two 15-ton machines, and have already contracts
 in view that will yield a dividend of 15 per ct. per annum to the investor.

For subscription blanks apply to E. A. Catlin, Secretary and Treasurer;
 S. G. Wallace, Cashier Citizens' Bank, or to W. M. Hill, Cashier State
 Bank, Richmond, Va., to any of whom subscriptions may be paid.

~~~~~ The Officers of the Company are: ~~~~~

HERMANN SCHMIDT, President. W. SIMPKIN, V-Pres. & Gen. Agt.

E. A. CATLIN, Sec. & Treas. S. W. JOHNSON, Supt.

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R. G. RENNOLDS,

WM. SIMPKIN,

Proprietor Transparent Ice W'ks. Sec. & Treas. Richmond Stove W'ks. Simpkin & Hillyer, Eng'rs.

A. R. TATUM,

W. P. DeSAUSSURE,

Capitalist.

Attorney-at-Law.

Office of the Company, 1105 Main Street,

RICHMOND, VA.

# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

\*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

†In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

## ALABAMA.

Anniston—Water-power.—W. T. Farrar has purchased the water-power at Reed's Mill and will, it is stated, make extensive improvements.

Anniston—Furniture Factory.—J. R. Lichtenwalter, of Hooper, Ga., and J. D. Foster have purchased a controlling interest in planing mill and novelty works of Farrar & Higgins, and will put in new machinery and operate as a furniture factory.

Anniston—Machine Works.—Negotiations are still pending for the removal of the wood-working machine works of the Rollstone Machine Co. from Fitchburg, Mass., to Anniston, as previously mentioned. R. H. Cobb and others are organizing a stock company to secure the change, and nearly all the stock has been subscribed.

Bessemer—Car Works.—Negotiations are pending for the location of large car works in Bessemer. The Bessemer Land & Improvement Co. can give information.

Bessemer—Iron Furnaces.—It is reported that a syndicate with a capital stock of \$300,000, which it proposes to increase to \$400,000, has made an application for a site for two 125-ton iron furnaces to the Bessemer Land & Improvement Co.

Birmingham—Publishing.—F. L. Morague will probably publish a newspaper.

Birmingham—Electric-light Plant.—The Edison Electric Illuminating Co. will meet January 16 to consider the increase of its capital stock and the issuance of bonds for the enlargement of plant.

Bridgeport—Cotton Mill, etc.—The Bridgeport Land & Improvement Co. has purchased 80,000 acres of coal and iron lands adjoining the town with a view to large developments. It has also increased capital stock to \$5,000,000 and organized a \$100,000 stock company to build the cotton mill lately mentioned.

Eufaula—Cotton Factory.—A public meeting will be held on January 6 to consider the erection of another cotton factory.

Fort Payne—Factory.—Frambes, Somers & Co., Atlantic City, N. J., will establish a builders' finishing material factory in Fort Payne. Their capital stock is \$25,000, and the factory will employ 50 men.\*

Gadsden—Trenches.—W. F. Todd, city engineer, will receive proposals for digging trenches for 10,000 feet of sewer.

Sheffield—Electric-light Plant and Water Works.—The Sheffield Land, Iron & Coal Co. has, it is stated, made arrangements for the immediate enlargement of the electric-light plant lately mentioned and the water works.

Sheffield—Factory.—It is reported that A. H. Moses is about to close negotiations for the establishment of an extensive factory at West Sheffield.

## ARKANSAS.

Camden—Ice Factory.—A stock company will operate the ice factory reported in last issue. The capacity will be 10 tons daily. S. O. Sevier let contract for machinery, as stated.

Camden—Paint Works.—It is reported that A. B. Howard, R. K. McGrath and B. C. Kling, of St. Louis, Mo., and R. Hubbard, of Camden, have organized a \$500,000 stock company to develop manganese mineral pigment and manufacture mineral paint.

Cummins—Bridge.—Orlapp & Kusener, of Little Rock, are preparing plans for the Kansas

City, Arkansas & New Orleans Railroad Co.'s bridge to be built across the Arkansas river at Cummins. It is to be 1,200 feet long, of four spans and a draw-span 380 feet.

Fort Smith—Bridge.—The Missouri Pacific Railway Co. (office, St. Louis, Mo.) has decided to commence the construction of its railroad, wagon and foot bridge across the Arkansas river on or before February 1.

Fort Smith—Basket and Dish Factory.—The Fort Smith Canning & Wood Package Co. will put in basket and wooden dish machinery.

Hot Springs—Fire-alarm System.—John Loughran, chairman B. P. A., will receive proposals until January 6 for furnishing an electric fire-alarm system.

Little Rock—Saw and Planing Mill.—The Anderson Lumber Co., lately mentioned as purchasing a saw mill near Little Rock, has added an edger to same and contemplates erecting a planing mill.

## FLORIDA.

Apalachicola—Shingle Mill.—The Florida Shingle Co. is improving its shingle mill.

Blue Springs—Phosphate Lands.—E. W. Agnew, of Ocala, has purchased the F. H. Brown land, probably for the Baldwin Phosphate Co.

Brooksville—Cigar Factory.—The Hernando Cigar Factory will be started shortly.

Charlotte Harbor.—Cigar Factory.—T. L. Knight and others will, it is reported, start a cigar factory to employ 100 hands.

Citra—Distilleries.—The Atlanta Perfumery Co., of Atlanta, Ga., contemplates locating distilleries near Citra.

Green Cove Springs—Publishing.—J. C. Beck, Jr., has commenced the publication of the News-Herald.

Key West—Canning Factory.—C. G. McKinney contemplates starting a canning factory.\*

Ocala—Electric-light Plant.—Contract has been let for the electric-light plant lately mentioned to the Thomson-Houston Electric Co., of Boston, Mass. J. O. Clarke can give particulars.

Ocala—Phosphate Land.—The Baldwin Phosphate Co. is the purchaser of the phosphate land of W. T. Tompkins, mentioned in last issue.

Ocala—Phosphate Mines.—J. W. Sanders states he has not sold his phosphate lands, as stated in last issue, and will probably develop the property.\*

Ocala—Saw Mill.—W. T. Tompkins will erect a saw mill to have a capacity of 20 M feet daily, and put in lath, flooring and moulding machines.\*

Punta Gorda—Cigar Factories.—It is reported that three cigar factories will be moved from Key West to Punta Gorda. I. H. Trabue can give information.

Tavares—Paving.—S. B. Harrington has the contract to pave the sidewalks of certain streets with brick and lumber.

Winter Park—Ice Factory.—D. N. Batchelor will probably start an ice factory.

## GEORGIA.

Acworth—Cotton Mill.—The building of a cotton mill is projected.

Atlanta—Aluminum Plant.—S. W. Goode will, it is said, organize a stock company to manufacture aluminum by a new process.

Augusta—Brick Works.—George B. Parker will rebuild on a larger scale his brick works lately reported as destroyed by fire.\*

Brunswick—Terra-cotta Works.—C. A. Ellis, of Macon, and R. R. Hopkins will establish terra-cotta works, and have purchased a site.

Brunswick—Sewerage System.—Contract has been let for the sewerage system previously reported. The West system is the one adopted. The mayor can give particulars.

Brunswick—Brewery.—It is rumored that Herman Winter, of Savannah, will erect a beer brewery.

Brunswick—Bottling Works.—Lloyd & Adams will start large bottling works and have selected site for building.

Cedartown—Ore Washer.—W. L. Hickman is erecting another ore washer.

Cement—Cement Works.—The Howard Hydraulic Cement Co., lately reported as putting in a new boiler and engine, will also add other machinery.

Douglasville—Canning Factory.—It is reported that new machinery will be placed in the Douglasville Canning Factory and the factory put in operation.

Emerson—Graphite Mines.—J. E. C. Pierce & Co. will probably develop graphite mines.

La Grange—Canning Factory.—Mr. Summerour, of Dalton, is investigating with a view to erecting a canning factory.

Macon—Chopper Factory.—The Ammons Cotton Chopper Co., reported in last issue as organized, has been incorporated and will commence the erection of factory buildings at once.\*

Macon—Wheel Factory.—J. H. Roush & Sons contemplate enlarging their wheel factory, reported in last issue, to double its capacity in the spring.\*

Marshallville—Shingle Factory.—Ware & Niles will start a shingle factory.

Milledgeville—Water-power.—The capital stock of the Milledgeville Land & Improvement Co., previously reported as organized, is \$200,000. The company proposes to develop the water-power above the city.

Milledgeville—Machine Shop.—B. W. Walker, of Charleston, S. C., will start a machine shop.\*

Perry—Variety Works.—E. J. Fuller, previously reported as enlarging the Perry Variety Works, will soon put in additional wood-working machinery.

Rome—Iron Furnace and Car wheel Works.—Charles A. Lyerly, Edward Watkins, L. S. Colyar and others, of Chattanooga, Tenn., previously reported as to build a 50-ton charcoal iron furnace and car-wheel works, have incorporated the Rome Iron Co. The capital stock is to be \$300,000.

Savannah.—The Weillville Land Co. has been incorporated by M. J. Solomons and C. H. Dorsett to deal in real estate. The capital stock is \$5,000.

Tallahassee—Extract and Soap Works.—J. Roan, of the Elm City Chemical Works, New Haven, Conn.; P. Holland and Edward Purrington will establish extract and soap works. A three-story building, 120x40 feet, will be erected. They contemplate adding the manufacture of cotton-seed oil, meal and fertilizers later.

Tallahassee—Car Works.—The building of car works is agitated. The Tallahassee Land, Mining & Manufacturing Co. can give particulars if anything is done.

Tallahassee—Cotton Factory.—The Enterprise Cotton Co. has been organized with Alvin Porter, of Elkhart, Ind., as president, to build the cotton or knitting factory referred to in last issue. Contract for erecting the main building, to be of brick, two stories, 120x35 feet, has been awarded to D. Churchill.

Tallahassee—Foundry and Machine Works.—Contract for erecting the buildings for the Tallahassee Foundry & Machine Works, lately mentioned, has been let to F. J. Myers.

Turin—Cheese Factory.—C. L. Moses is in correspondence with an Ohio party to secure the establishment of a cheese factory in Turin.

## KENTUCKY.

Barbourville—Furniture Factory and Planing Mill.—A \$30,000 stock company is being organized to erect a furniture factory and planing mill.

Bardstown—Distillery.—T. S. Moore will operate the distillery lately reported. It is now nearing completion.

Beattyville—Lumber Boom.—The Kentucky River Lumber Co., reported in last issue as erecting a saw mill, has constructed one mile of boom on the Kentucky river and proposes to build at least another mile.

Carlisle—Electric-light Plant.—The Nusun Electric Light Co. has been granted the privilege of erecting an electric-light plant.

Catlettsburg—Machine Shop.—The lathe lately mentioned as to be put in by John Grant will be added to the machine shop of J. W. Dillon.\*

Fordsville—Publishing.—L. J. Early, of Whitesville, will publish a newspaper.

Hopkinsville—Electric-light Plant.—Contract for furnishing the electric-light plant for the Western Lunatic Asylum, previously reported, has been awarded to the Thomson-Houston Electric Co., of Boston, Mass.

Leslie County—Mineral and Timber Lands.—W. P. Bentley, of Hayden, and S. B. Garrison, of Manchester, have sold several thousand acres of mineral and timber lands to Eastern parties.

London—Saw Mill.—Thomas Johnson has moved his saw mill to another site.

Louisville—Saw Mill.—C. B. Paul will erect another saw mill to have a daily capacity of 40 M feet. Machinery has been ordered.

Louisville.—The Falls City Investment Co. has been incorporated by F. J. Hummel, J. W. Bates, C. J. Comstock and others to deal in real estate. The capital stock authorized is \$50,000.

Louisville—Paper Mills.—Theodore Harris, William Cornwell, Jr., V. D. Price and others have purchased the Du Pont Paper Mills and have organized a \$200,000 stock company to operate same. It is stated that \$200,000 of bonds will be issued, and \$100,000 expended for new machinery.

Middlesborough—Electric-light Plant and Gas Works.—The Middlesborough Electric Light, Heat & Power Co. has been incorporated by J. B. Cary, C. M. Woodbury, A. A. Arthur and others to furnish electric light, and coal, water or nat-

ural gas. This company will operate the electric-light plant already established. The capital stock authorized is \$250,000.

Newport—Coal and Iron Mines, etc.—The New York, Cincinnati & Big Sandy Coal & Iron Co. has been incorporated by S. Frank, C. J. Helm, G. W. Clutter and others to mine coal and iron ore and manufacture coke and iron. The capital stock authorized is \$250,000.

St. Helens—Spoke and Wheel Factory.—The Lexington Spoke & Wheel Co. states it does not contemplate moving its spoke and wheel factory to St. Helens, as mentioned in last issue.

Tygart Valley—Saw Mill.—Jacob Jackson has located a portable saw mill near Tygart Valley.

Vanceburg—Saw Mills.—Shudvald & Kendal, lately reported as purchasing the Boone furnace land, contemplate, it is said, erecting several saw mills.

## LOUISIANA.

Breaux Bridge—Sugar Refinery.—Dr. F. R. Martin is reported as to build a sugar refinery on the Wanita plantation.

Conway—Grist Mill and Gin.—B. O. Bird will rebuild his grist mill and cotton gin reported in last issue (under Oakland) as burned.\*

Gibson City—Saw Mill and Stave Factory.—F. Fendal has recently added new machinery to his saw mill and contemplates manufacturing barrels in shock form.

Illawara—Ginnery.—W. H. Benjamin will rebuild next spring or summer his cotton ginnery lately reported as burned (under Lake Providence).\*

Lake Arthur—Saw Mill.—Des Moines (Iowa) parties have been prospecting with a view to erecting a saw mill.

New Orleans—Mineral Water Factory.—The Hope Seltzer & Mineral Waters Manufacturing Co. has been incorporated with George Schweitzer, president, to succeed George Schweitzer, manufacturer of seltzer and mineral waters.

New Orleans—Sewerage System.—The Board of Trade has asked for permission to lay an iron pipe for sewerage, to be not less than six inches in diameter, from its building to the river.

Slidell—Saw Mill.—Salmen Bros. are erecting a saw mill.

## MARYLAND.

Baltimore—Brake Works.—The Boyden Brake Co., lately mentioned, has been incorporated by George A. Boyden, Douglas H. Thomas, Edwin F. Abell and others to manufacture the Boyden power brake. The capital stock is \$2,500,000.

Washington, D. C.—Ice Factory.—The Capital Ice Co., reported in last issue, will not manufacture ice at present, but handle natural ice.

Washington, D. C.—Electric-light Plant.—Contract for additional engines and dynamos for the electric-light plant at the navy-yard has been awarded to the Brush Electric Co., of Cleveland, Ohio.

## MISSISSIPPI.

Sunflower County—Land.—Thomas Barrett, R. H. Vance, J. V. Johnson, Dr. A. A. Lawrence and others, of Memphis, Tenn., have purchased through Wm. Watson, of Jackson, 93,000 acres of land in the valley of the Sunflower river at \$2.50 per acre. A stock company is being organized, it is stated, to develop the property.

Vicksburg—Brick-yard.—A party will, it is said, visit Vicksburg shortly with a view to establishing a brick-yard.

West Point—Soda Water Factory.—R. N. Dominick contemplates manufacturing soda water, and wants information about the business.\*

Yazoo City—Saw Mills.—H. M. Hunt, of Boston, Mass., has, it is reported, secured control of over \$1,000,000 of timber and farm lands in the Mississippi Yazoo Delta for an English syndicate which intends erecting saw mills.

## NORTH CAROLINA.

Buffalo City—Fibre Factory.—The Buffalo Lumber Co. has recently added to its lumber mill the manufacture of juniper fibre for mattresses.

Carthage—Stone Quarries.—J. F. Manning, of Washington, D. C., and others have purchased the brownstone on the lands of J. McL. & P. H. Kelley, previously reported as organizing a stock company to develop same.

Charlotte—Gold Mine.—A. V. G. Smith, of Troy, N. Y., and S. J. Warren have purchased land near Charlotte for gold mining purposes. They are negotiating to purchase also the Chinquepin mountain property.

Charlotte—Knitting Mill.—Mrs. J. E. Wilkes has purchased the Charlotte Knitting Mills, and will operate and probably increase capacity of same.

Edenton—Lumber Mill.—The Branning Manufacturing Co., mentioned in last issue, has increased its capital stock \$35,000.



**Goldsboro—Gas Works.**—T. H. Bain, city clerk, will receive bids until January 15 for lighting the city with gas or gasoline lamps. The population is 5,000.

**Lenoir—Saw Mill.**—A saw mill is being erected by George E. Stone & Co.

**Morganton—Gold Mine.**—A Northern company is reported by Lafayette Lane as discovering a gold mine in Rutherford county near the Burke county line.

**Morganton—Flour Mill.**—The Farmers' Alliance will erect the flour mill mentioned in last issue next spring. F. M. Asbury can give particulars.\*

**New Berne—Wash-board Factory.**—L. H. Cutler contemplates adding the manufacture of wooden wash-boards to his sash, door and blind factory.\*

**Oxford—Brick-yard.**—O. A. Osborne will probably start a brick-yard.

**Oxford—Tobacco Stemmer.**—The Kimbell Tobacco Stemmer will be enlarged by an addition, five stories, 90x50 feet. Hundley Bros. have the contract.

**Raleigh—Iron Shed.**—The Carolina Oil & Cresote Co. expects to put up a light iron shed to replace the wooden shed reported as burned in last issue.

**Wilmington—Bottling Works.**—Contract has been let to J. S. Allen for erecting the bottling works and cold-storage warehouse of the Robert Portner Brewing Co., of Alexandria, Va., previously reported. The building will be two stories, 35x65 feet, and cost \$15,000.

**Winston—Laundry.**—The Twin City Laundry has been started recently and will put in additional machinery.\*

**Winston—Cigar Factory.**—C. A. Reynolds has purchased the Leopold Cigar Factory.

#### SOUTH CAROLINA.

**Chesterfield—Machine Shop.**—The Eutawville Railroad Co. (office, Eutawville) will, it is reported, locate its machine shops in Chesterfield.

**Marion—Bridge.**—The county commissioners of Marion and Horry counties will probably build a drawbridge across Little Pee Dee river at Gallivant's Ferry.

**Mt. Pleasant—Spoke and Handle Factory.**—J. C. Malone, previously reported as to erect a spoke and handle factory, has, with R. B. Sebley and Robert Magwood, incorporated the Phoenix Spoke & Handle Co. The capital stock is to be \$20,000.

**Pendleton—Bridge.**—A new bridge will probably be constructed across Eighteen Mile Creek. D. K. Norris can give information.

**Port Royal.**—It is again reported that English capitalists have secured most of the property of Port Royal, previously reported as being negotiated for. Hugh Dempsey can give information.

**Sumpter—Saw Mill.**—Michigan capitalists have purchased about 3,000 acres of timber land, and will erect a saw mill.

#### TENNESSEE.

**Brownsville—Gas Works.**—W. B. McKinney is repairing the Brownsville Gas Works, reported in last issue as damaged by fire.

**Chattanooga—Car Works.**—The Chattanooga Car & Foundry Co. is putting two 50 horse-power boilers in its car works.

**Chattanooga—Locomotive Works and Machine Shops.**—The Queen & Crescent System, (office, Cincinnati, O.), reported in last issue as to build locomotive works, will, it is stated, build a brick machine shop, two stories, 150x60 feet, large blacksmith shops, construct coal chutes and enlarge the roundhouse. It will also, it is said, build an addition 600x75 feet to the Cincinnati Southern machine shops.

**Chattanooga—Brick Works.**—Howard & Parks have put a new brick machine and an engine in their brick works.

**Chattanooga—Tool Works.**—The statement mentioned in last issue that the Niles Tool Works, of Hamilton, Ohio, contemplated moving South is an error.

**Chattanooga—Box and Dish Factory.**—The report lately mentioned that J. E. Tucker, G. T. Benjamin and others would charter the Chattanooga Box & Butter Dish Co. to erect a factory at East Chattanooga is a mistake.

**Chattanooga—Basket Factory.**—The Chattanooga Basket & Package Co. has recently added new machinery and has ordered a dynamo for lighting its factory by electricity.

**Clarksville—Sewerage System.**—It is reported that R. F. Hartford, of Chattanooga, will prepare plans for a sewerage system.

**Columbia—Churn, Bucket and Tub Factory.**—George N. Sarven contemplates starting a churn, bucket and tub factory.\*

**Dayton—Canning Factory and Evaporator.**—A party has been prospecting with a view to erecting a canning factory and evaporator.

**Dayton—Ice Factory.**—A Mr. Green is reported as to establish an ice factory.

**Dunlap—Land.**—A syndicate is reported as optioning land around Dunlap.

**Elizabethton—Iron Furnaces, etc.**—General J. D. Imboden, of Abingdon, Va., has purchased for an Eastern syndicate mineral lands in the vicinity of Elizabethton. It is the intention of the syndicate, it is claimed, to build blast furnaces, establish steel industries and construct a railroad.

**Fayetteville—Water Works.**—The Harrisburg Construction Co., of Harrisburg, Pa., has made a proposition to supply the town with water from the ice factory.

**King's Point—Flour Mill.**—J. L. Divine has recently put in additional steam power and made other improvements at his flour mill.

**King's Point—Marble Quarries.**—J. L. Divine is reported as to develop marble quarries and erect a polishing mill.

**Knoxville—Machine Shops.**—Plans are being prepared for the new machine shops of the East Tennessee, Virginia & Georgia Railroad Co., lately mentioned. The estimated cost is \$200,000.

**Knoxville—Telephone Exchange.**—The East Tennessee Telephone Co. will erect a new building for its exchange, put in a new switchboard to cost \$5,000 and make other improvements at a total cost of about \$20,000.

**Loudon—Flour Mill.**—The Farmers' Alliance of Monroe county has decided to locate the 200-barrel flour mill reported in last issue (under Madisonville) in Loudon.

**Maryville—Flour Mill, etc.**—McKinzie & Hackney Bros. have purchased the Walker Flour Mill, and contemplate remodeling it to the roller system in the future.

**Memphis—Oil Mill.**—The Colonial & United States Mortgage Co., of St. Paul, Minn., states in a letter to the Commercial Association that English capitalists contemplate establishing a cottonseed oil mill in the South, and asks what inducements are offered for the location of same in Memphis.

**Memphis—Coal Elevator.**—The Pittsburgh Coal Co., previously reported as incorporated, proposes to build a coal elevator.

**Memphis—Pump Factory.**—The secretary of the Commercial Association has received a letter from an Ohio pump manufacturer who contemplates moving to Memphis.

**Mossy Creek—Wash-board Factory.**—The Mossy Creek Manufacturing Co. expects to increase capital stock to \$50,000, and then enlarge its wooden wash-board factory, as lately mentioned. It proposes to add the manufacture of specialties and probably furniture.

**Mossy Creek—Machine Works.**—The works reported in last issue as being erected for the manufacture of mills and mill gearing will be operated by Bollinger Bros., of Jonesboro, lately mentioned as to establish a machine shop. W. S. Sizer is erecting the buildings.

**Murfreesboro—Ice Factory.**—Hicks & Perry will start an ice factory to have a daily capacity of 10 tons.\*

**Murfreesboro—Publishing.**—C. Henderson will publish the Home Journal.

**Nashville—Publishing.**—D. C. Kelley, lately reported as organizing a stock company to publish a newspaper, has, with J. M. Head, H. W. Evans and others, incorporated the Round Table Publishing Co. with a capital stock of \$30,000.

**Nashville—Granite Paving.**—The city will pave certain streets with granite during 1890 at an estimated cost of \$39,975.

**Nashville—Plaster Works.**—The Tennessee Adamant Co. has increased its capital stock to \$100,000 and will, it is reported, build new plaster works to have a daily capacity of 300 barrels.

**Nashville—Telegraph Line.**—W. M. Fleming, A. M. Chrisolm, J. A. McCleary and others have incorporated the Signal Dispatch Telegraph Co.

**Nashville—Brewery.**—The Smith India Pale Ale Brewing Co. has been incorporated by John Franz, F. D. Harris, C. G. Frank and others.

**Nashville—Wagon Factory.**—The company reported in last issue as organized with Joseph F. Foard, president, to manufacture wagons and purchasing the plant of Cherry, Morrow & Co., has been incorporated as the Cherry Morrow Manufacturing Co.

**Sherman Heights—Barrel and Dish Factories.**—The Chattanooga Wooden Tray Co. has purchased a site for its factory mentioned in last issue. It contemplates adding a barrel factory in the future.

**Sherman Heights—Factory.**—It is reported that parties have purchased from Woolson & Turnley a site for a large factory.

**South Pittsburgh—Stove Works.**—The Perry Stove Works has decided to enlarge its works, erecting a three story brick addition 60x200 feet.

#### TEXAS.

**Abilene—Artesian Wells, etc.**—The Abilene Progressive Committee has been organized with O. W. Steffens, president, to secure factories and the sinking of artesian wells.

**Abilene—Laundry.**—A steam laundry will probably be started.

**Austin—Bridge.**—Proposals for completing 350 feet of the bridge over Montopolis ford, lately mentioned, will be received until January 3. Address J. M. Brackenridge.

**Ballinger—Bridge.**—Contract for constructing the iron bridges across Elm, Oak and Valley creeks has been awarded at \$19,900.

**Beaumont—Dry-kilns.**—The Beaumont Lumber Co., mentioned in last issue as putting in new machinery, has added 4 large planing machines and 4 dry-kilns.

**Childress—Flour Mill.**—It is reported that an East Texas party will erect a 250 barrel flour mill.

**Coleman—Grist Mill.**—W. L. Rose will erect a grist mill.

**Conroe—Saw Mill.**—J. K. Ayres Lumber Co. will put new machinery in its saw mill.

**Corpus Christi—Refrigerator.**—A stock company will probably be organized to establish a beef refrigerator. E. H. Ropes can give information.

**Denison—Ice Factory.**—The Denison Crystal Ice Co., lately mentioned, is putting in a 15-ton ice machine, doubling its capacity.

**El Paso—Marble Quarry.**—C. R. Moreland, B. H. Davis and others will develop a marble quarry near Lanoria.

**Fort Worth—Compress.**—The Fort Worth Compress Co. will probably rebuild at once its cotton compress reported in this issue as burned.

**Fort Worth—Wind mill.**—M. G. Ellis, lately reported as sinking an artesian well, will put in a pump and erect a wind-mill.\*

**Fort Worth—Pump Factory.**—The Board of Trade is corresponding with parties to secure the location of a steam pump factory in Fort Worth.

**Fort Worth—Land.**—H. C. Lowry, D. Streeter and P. Feldhauser, of Denver, Col., have purchased 100 acres of land on the suburbs of Fort Worth.

**Fort Worth—Cement Works.**—The Fort Worth Cement Co. has been incorporated by J. W. Williamson, A. G. Rintleman, J. W. Hill and others to establish the cement works previously reported.

**Fort Worth—Flour Mills and Grain Elevators.**—The North Texas Grain, Milling & Elevator Co., reported in last issue as incorporated, will purchase flour mills and grain elevators at Fort Worth and Waco, and later in the Pan Handle.

**Fort Worth—Grain Elevator.**—The building of a grain elevator of 1,000,000 bushels capacity is proposed. The secretary of the Board of Trade can probably give information.

**Galveston—Harbor Improvements.**—The commission appointed by Congress to report the best site on the Texas coast for a deep-water harbor has decided in favor of Galveston, and recommends an appropriation of \$6,200,000 to obtain a depth of 30 feet.

**Greenville—Gas Well.**—A gas well is being sunk.

**Hillsboro—Water Works.**—A stock company is being organized to sink an artesian well and construct a system of water works.

**Hollister—Saw Mill.**—Arthur Hutchins, of Nona, has purchased the Hollister Saw Mill and will put in new machinery.

**Nacogdoches—Electric-light Plant.**—Negotiations are pending for the erection of an electric-light plant and water works. The mayor can give information.

**Rockport—Variety Works.**—James C. Fulton has put new machinery in his variety works and expects to add more in the near future.

**San Antonio—Electric-light Plant.**—The San Antonio Electric Light & Power Co. contemplates putting in a 400 horse-power engine.

**Sherman—Artesian Wells.**—The artesian well lately reported as to be sunk by Z. P. Dederick is for the city. He will put in a steam pump of about 250 M gallons capacity per 24 hours, and expects to sink additional wells.\*

**Tyler—Furniture Factory.**—H. H. Havenkott is organizing a stock company to operate the furniture factory lately mentioned.\*

#### VIRGINIA.

**Alexandria—Aluminum Plant.**—The Carroll Aluminum Manufacturing Co. has been incorporated by C. Carroll, of New York, N. Y.; W. H. Dwinelle, E. S. Carroll and others to manufacture aluminum. The capital stock authorized is \$1,000,000.

**Bales Mills—Saw and Planing Mills.**—The Day Ritchie Lumber Co. will erect the saw mill lately mentioned next spring, and also a planing mill.\*

**Buena Vista—Tinware and Tin Can Factories.**—It is reported that a tinware factory at Salisbury, N. C., and a tin can factory at Baltimore, Md., will be moved to Buena Vista. The Buena Vista Co. can give information.

**Covington—Iron Furnaces, etc.**—The Potts Valley Mining & Manufacturing Co. has been incorporated by O. A. Thayer, J. S. Savage and others, of Charleston, W. Va.; J. L. Berry, of Echo, W. Va., and Thomas B. Paxton, of Cincinnati, Ohio, for the mining of coal, ore, limestone and other minerals, constructing and operating iron furnaces, rolling mills, saw mills, etc. The capital stock is to be not less than \$100,000 nor more than \$500,000.

**Fincastle—Wagon Factory.**—Rauch & Crush is the style of the firm reported in last issue as to erect a wagon factory.\*

**Norfolk—Grading, etc.**—The city council has decided to grade, curb and shell certain streets. The mayor can give particulars.

**Norfolk—Glass Works.**—It is rumored that the Boston & Sandwich Glass Co., of Sandwich, Mass., will move its glass works to Norfolk.

**Norfolk—Machine Shops, etc.**—The Norfolk & Carolina Railroad Co. contemplates erecting its machine shops and other terminal buildings at Pinners Point.

**Richmond—Fertilizer Factory and Phosphate Mines.**—The Hampton Land & Phosphate Co. has been incorporated with Norvell Ryland, president, and L. B. Vaughan, secretary and treasurer, to deal in real estate, develop phosphate lands and manufacture fertilizers. The capital stock is to be not less than \$40,000 nor more than \$250,000.

**Richmond—Publishing.**—The State Publishing Co. has been incorporated with R. F. Beirne as president to publish the State. The capital stock is to be not less than \$30,000 nor more than \$100,000.

**Roanoke.**—The Virginia Investment Co. will be the name of the \$50,000 stock company lately reported as to be organized by W. S. Gooch and others.

**Salcm.**—A Chamber of Commerce will be organized.

**Surry C. H.—Peanut-cleaning Factory, &c.**—The Farmers' Alliance has erected the peanut-cleaning factory previously reported, and will also grind corn and saw lumber.

**Tazewell C. H.—Land.**—J. V. Kelly is negotiating the sale of 42,000 acres of land to Harrisburg (Pa.) parties.

**Waynesboro—Land.**—The Kayser farm, lately mentioned as sold, was purchased by the Basic City Mining, Manufacturing & Land Co., lately reported as incorporated to build a new town, together with other farms.

**Waynesboro—Land.**—M. E. Miller, of Buena Vista, and others have purchased the Gallagher farm for \$50,000.

**Wytheville—Mineral Land.**—The Virginia Steel Co. is investigating mineral land near Wytheville with a view to purchasing.

**Wythe County—Mines.**—J. Whitman & Co., of Pulaski City, have purchased the mineral land reported in last issue and have let contract for mining to C. S. Lucas.

#### WEST VIRGINIA.

**Burning Springs—Oil Well.**—Mr. Scinnion, of Pittsburgh, Pa., has sunk an oil well.

**Cairo—Oil Well.**—An oil well has been located on the farm of A. M. Douglass, near Cairo.

**Elizabeth—Oil Well.**—A stock company is being organized to sink an oil well near Elizabeth.

**Elizabeth—Oil Well.**—Mr. Bumgarner and M. L. Willets have leased their farms of 750 acres to a company which contracts to sink an oil well within six months.

**Florence—Land.**—The Welsh Improvement Co. has purchased 1,000 acres of land for \$50,000, and will divide into small farms.

**Freeman—Saw Mill.**—T. B. Surface will erect a saw mill and stave machine.\*

**Hickory—Gas Well.**—The Natural Gas Co., of Wheeling, has sunk a gas well.

**Moorefield—Timber Land.**—Pennsylvania parties have purchased a large tract of timber land from J. H. Broll.

**Moorefield—Land.**—Hon. W. F. Dyer, of Petersburg, has purchased about 800 acres of the J. T. Vanmeter land at \$8 per acre.

**Parkersburg—Furniture Factory.**—The stock company previously reported as being organized to establish a furniture factory has been incorporated by R. J. A. Roseman, W. W. Chandler, J. S. Camden and others as the Parkersburg Chair & Furniture Co. The capital stock subscribed is \$15,000.

**Parkersburg—Woolen Mill.**—A Chicago firm offers to furnish \$100,000 of the stock for a \$125,000 woolen mill, provided the remainder is subscribed in Parkersburg. The secretary of the Merchants & Manufacturers' Association can give information.

**Parkersburg—Knitting Factory.**—Parties have offered to subscribe \$50,000 to the capital stock of a \$65,000 knitting factory if the remainder is raised in Parkersburg.

**Pleasant County—Oil Wells.**—J. N. Barnsdall, Reep & Co., of Pittsburgh, Pa.; Barn dall & Moore, Mr. Boyle, Duncan Oil Co., of Pittsburgh, Pa., and B. C. Campbell, will sink oil wells.

**Roney's Point—Bridge.**—Contract for constructing a new bridge across the creek has been awarded to A. Vance, of Triadelphia.

**St. Mary's—Oil Well.**—An oil well is being sunk on the lands of S. Barkwill and C. W. Bills, near St. Mary's.

**St. Mary's—Oil Well.**—C. W. Brockunier and others, of Wheeling, are sinking an oil well.

**Wheeling—Coal Mining.**—J. W. Allen, of Roscoe, Pa.; T. J. Woods, of Woods' Run, Pa.; W. G. Cotton, of Pittsburgh, Pa., and others are the incorporators of the New Orleans Coal Co., lately mentioned.

Wheeling-Tunnel.—Contract for constructing the tunnel for the Wheeling Bridge & Railway Terminal Co., lately mentioned, has been awarded to Page, Carey & Co. It is to be about 2,400 feet in length.

Wheeling-Publishing.—The Prohibition Publishing Co. has been incorporated by Frank Burt, of Mannington, F. T. Cartwright and others, to publish a newspaper.

## Building Notes.

Alexandria, Va.—The Alexandria & Fredericksburg Railway Co. (office, Philadelphia, Pa.) will, it is stated, erect a new station in the near future.

Alexandria, Va.—The German Co-operative Building Association has been incorporated with J. Eichberg, president.

Atlanta, Ga.—The erection of a school building for colored children is contemplated.

Baltimore, Md.—The Baltimore Builders' Exchange has projected a six-story building to be used for exchange and office purposes. No plans have been made yet.

Baltimore, Md.—T. W. Bedford & Co. will erect a two-story dwellings to cost \$5,000; J. S. Mullen will erect a brick dwelling; Louis McCusker, 7 three-story dwellings to cost \$17,000, also 6 two-story dwellings to cost \$10,000; F. C. Adams, ten dwellings to cost \$18,000; the Baltimore Traction Co., another power-house.

Bardstown, Ky.—T. S. Moore is building a warehouse at his distillery, mentioned elsewhere in this issue.

Bowling Green, Ky.—The report last week that a syndicate was being formed to build a hotel is denied.

Brunswick, Ga.—Anderson & Sharp have been awarded the contract to erect the new city hall mentioned last week for the amount of \$32,900.

Candler, Fla.—Hotel.—It is reported that a syndicate of Boston (Mass.) capitalists has secured options on land one mile west of Candler, on which will be founded a town. It is also stated that a hotel and dwellings will be erected. John H. Foss, the founder of Belleview, is said to be at the head of the enterprise.

Candler, Fla.—W. F. Wallace, of London, Eng., is erecting a residence.

Charleston, S. C.—Swift & Co., of Kansas City, Mo., are erecting a cold storage warehouse 60x120 feet.

Chattanooga, Tenn.—It is reported that a large business block will be erected. Col. Thomas Fort can give information.

Chattanooga, Tenn.—The Chattanooga Union Depot Co. has been incorporated by C. E. James, John A. Hart and others for the purpose of erecting the union depot previously reported.

Conway, S. C.—A branch of the Interstate Building & Loan Association of Columbus, Ga., has been organized with C. P. Quattlebaum, president.

Dallas, Texas.—Hotel.—The Oak Cliff Hotel Co. has let contract for the erection of the hotel at Oak Cliff previously mentioned.

Dallas, Texas.—It is stated that a five-story commercial building will be erected. The secretary of Board of Trade can give information.

Dallas, Texas.—It is stated that the Commerce Street Christian Church congregation is preparing to erect a new church building.

Eagle Pass, Texas.—It is rumored that a \$20,000 opera-house may be erected.

Elko, S. C.—The erection of a town hall and market-house building is being talked of.

Florence, Ala.—J. B. Alliger has contract for erecting the Baptist University, previously mentioned as to be built by the Florence Education & Land Co.

Florence, Ala.—Hotel.—J. M. Ellis, of the Exchange Hotel, which was mentioned last week as likely to be torn down, denies the report, but states that he will probably build a \$50,000 hotel some time during the present year.

Fort Payne, Ala.—It is stated that the Queen & Crescent Route (office, Cincinnati, O.) will erect a new passenger depot. Charles Schiff, president, can give information.

Fort Worth, Texas.—It is stated that plans have been prepared for a \$700,000 building, and it is possible that it is to be erected by the Fort Worth Loan & Construction Co.

Griffin, Ga.—The Central Railroad & Banking Co. of Georgia (office, Savannah, Ga.) will erect a station.

Helena, Ark.—The Louisville, New Orleans & Texas Railway Co. (office, Memphis, Tenn.) states in regard to the rumor mentioned last week that it will erect a freight depot.

Johnson City, Tenn.—A brick freight depot 30x150 feet in dimension is to be erected near the junction of the Charleston, Cincinnati & Chicago Railroad (office, Rock Hill, S. C.) and the East Tennessee, Virginia & Georgia Railway (office, Knoxville, Tenn.) Gen. John T. Wilder, Johnson City, can give particulars.

Johnson City, Tenn.—It is reported that the Masons will erect a Masonic Temple to be three stories in height.

Key West, Fla.—The time for receiving the bids for the erection of the Monroe county courthouse, previously mentioned, has been once more extended to February 6.

Key West, Fla.—J. W. Sawyer will, it is stated, erect a four-story building.

Louisville, Ky.—The Falls City Investment Co. has been incorporated by F. J. Hummel, James W. Bates and others for the purpose of dealing in real estate. The capital stock is \$50,000.

Macon, Ga.—A. W. Black has the contract for erecting a cold-storage building.

Meridian, Miss.—Hotel.—J. C. Lloyd confirms the report of last week, and states that the hotel is to cost \$100,000.

Millidgeville, Ga.—The Baldwin County Building & Loan Association has been organized with a capital stock of \$150,000. W. T. Coun is president and B. T. Bethune, secretary.

Natchez, Miss.—The Natchez, Jackson & Columbus Railroad Co. (office, Memphis, Tenn.) will erect a passenger station.

Nashville, Tenn.—The Louisville & Nashville Railroad Co. (office, Louisville, Ky.) is erecting a freight warehouse.

New Orleans, La.—The Sisters of St. Joseph contemplate the erection of a brick convent.

Norfolk, Va.—The Norfolk & Carolina Railroad Co. is erecting two warehouses aggregating 800x136 feet in dimension.

Ocala, Fla.—It is stated that Albertus Vogt will erect a residence to cost \$15,000.

Oneonta, Ala.—A new courthouse will be erected; plans for it have been prepared by Otto W. Puls. A new jail will also be built according to the plans of the Pauley Jail Building & Manufacturing Co. (office, St. Louis, Mo.) Contracts will be let for erecting both buildings on February 13.

Pendleton, S. C.—Hotel.—A meeting is to be held on January 4 to consider the question of erecting a hotel. R. W. Simpson can give information.

Richmond, Va.—Rev. H. A. Tupper will erect a residence to cost \$8,000. It will be 100x35 feet, and have electric bells, speaking tubes, etc.

Rockport, Texas.—Hotel.—The Ocean View Hotel Co., recently reported as incorporated, contemplates the erection of a hotel on the "Live Oak Peninsula," the cost to be not less than \$75,000.

Rockville, Md.—Montgomery county, previously mentioned, will probably erect a courthouse to cost about \$50,000.

Spartanburg, S. C.—The Fidelity Loan & Trust Co. will, it is reported, erect a banking house.

St. Augustine, Fla.—Floating Hotel.—E. E. Vaill confirms the report of last week, stating that he will convert the steamer Rockledge into a floating hotel.

Tarpon Springs, Fla.—A branch of the Interstate Building & Loan Association of Columbus, Ga., has been organized with H. D. L. Webster, president.

Tyler, Texas.—The Texas Horticultural & Live Stock Association has been organized with J. P. Douglas, president, and R. L. Robertson, secretary; capital stock \$30,000. The association contemplates the erection of an exhibition building and also the construction of a half-mile race track.

Valdosta, Ga.—The erection of a city hall is being agitated.

Vicksburg, Miss.—Hotel.—The Vicksburg Hotel Co. invites proposals until January 15 for the erection of the hotel building previously reported. Plans and specifications to be seen at Lilly, Tole-dang & Patton's, Richardson Block, Chattanooga, Tenn.

Washington, D. C.—T. H. Lyons has been awarded the contract mentioned recently for excavating for the new Library of Congress building; amount \$3,175.

Washington, D. C.—Howarth & Yates will erect 3 dwellings to cost \$16,000; R. A. Peschman, a two-story store and dwelling, 28x85 feet, to cost \$6,000; Simeon Carmody, 6 dwellings to cost \$24,000, also one dwelling to cost \$6,000; A. H. Semmes, a four-story dwelling, 20x60 feet, to cost \$6,500; Charles Early, 14 dwellings to cost \$16,000; R. A. Neale, a residence with steam heat, pneumatic tubes, etc., to cost \$15,000—Charles Martin has contract; plans have been made by T. T. Atkinson for 3 three-story dwellings, 18x52 feet, to cost \$18,000.

Wheeling, W. Va.—The Wheeling Title, Trust & Safe Deposit Co., mentioned elsewhere in this issue as incorporated, will, it is said, erect a building.

ENLARGING ICE FACTORY.—DENISON, TEXAS, Dec. 24, 1889.—We are enlarging our plant, buildings being of cut stone, for the purpose of putting in another 15-ton machine, making the total capacity 30 tons daily, and about 30,000 cubic feet of cold-storage capacity.

DENISON CRYSTAL ICE CO.

## MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Battery.—D. A. Carmichael, United States Marine Hospital, Wilmington, N. C., is receiving proposals for furnishing a galvano-cantery battery and appliances.

Belting, Pulleys, &c.—George B. Parker, Augusta, Ga., wants belting, pulleys, shafting and a winding drum for drawing up clay.

Boiler and Engine.—B. W. Walker, 151 Broad street, Charleston, S. C., will want a 15 horse-power boiler and engine.

Boiler and Engine.—W. H. Benjamin, Illawara, La., wants a boiler and engine for cotton ginny.

Boiler and Engine.—H. I. Smith, Mason City, Iowa, wants prices on a 50 horse-power boiler and engine; good second-hand desired.

Boiler and Engines.—W. T. Tompkins, Ocala, Fla., will put in a 40 horse power engine and a 20 horse-power engine; also boiler to run both.

Broom Factory.—D. W. K. Shofner, Mulberry, Tenn., wants prices on machinery for manufacturing brooms.

Broom Factory.—F. S. I., care of MANUFACTURERS' RECORD, Baltimore, Md., wants prices and catalogues of broom machinery; also information about the business.

Canning Factory.—C. G. McKinney, Key West, Fla., wants prices on complete outfit for a fruit canning factory.

Churn, etc., Factory.—George N. Sarven, Columbia, Tenn., wants prices on machinery for the manufacture of churns, buckets and tubs.

Cooperage.—J. P. Douglas, Tyler, Texas, wants prices on cooperage machinery.

Crushers.—J. W. Sanders, Ocala, Fla., wants prices on crushers for phosphate.

Desks, &c.—Henry M. Cowles, secretary to the Commissioners of Public Schools, Baltimore, Md., will receive proposals until January 6 for furnishing desks, bookcases and school supplies during the year 1890.

Electric Dynamo.—The Southern Lumber Co., W. B. Seymour, president, Chattanooga, Tenn., wants an incandescent dynamo with capacity for 100 lights.

Electric Fire-alarm System.—John Loughran, chairman, B. P. A., Hot Springs, Ark., will receive proposals until January 6 for furnishing an electric fire-alarm system of 12 boxes and including 10 miles of wire.

Engineering Supplies.—C. F. Z. Caracristi, Granite, Va., wants catalogues and prices of materials and machinery used in civil engineering.

Engine.—The San Antonio Electric Light & Power Co., San Antonio, Texas, contemplates putting in a 400 horse-power compound condensing engine.

Engine.—Rauch & Crush, Fincastle, Va., want an engine.

Engine.—The Lester Lumber Co., Camden, Ark., want an engine for logging road.

Fire-alarm System.—The town of Tarboro, N. C., will probably later on purchase an electric fire-alarm system. The mayor can be addressed.

Flour Mill.—F. M. Asbury, Morganton, N. C., wants prices on machinery for a roller flour mill.

Frames, Somers & Co., Atlantic City, N. J., will want machinery for a builders' finishing material factory to be established at Fort Payne, Ala.

Furniture Factory.—H. H. Havenkott, Tyler, Texas, will want, if he succeeds in organizing a company, machinery for the manufacture of chairs and furniture and a short log saw mill, and perhaps an engine and boiler.

Gas Lighting.—T. H. Bain, city clerk, Goldsboro, N. C., will receive proposals until January 15 for lighting the city with gas or gasoline lamps.

Gins, Press, &c.—W. H. Benjamin, Illawara, La., wants prices on two 75-saw cotton gins; also elevator and steam or hydraulic press.

Grist Mill.—B. O. Bird, Conway, La., wants prices on 18 or 20-inch grist mill.

Grist Mill.—H. I. Smith, Mason City, Iowa, wants estimates on a grist mill of about 50 barrels capacity, including feed mill and corn sheller.

Hoisting Engine.—J. B. Alliger, Florence, Ala., may purchase a second-hand hoisting engine.

Hydraulic or Gas Engine Elevator.—Leeper & Boldrick, Denison, Texas, will put into their new building a hydraulic or a gas engine elevator.

Ice Factory.—Hicks & Perry, Murfreesboro, Tenn., will buy a 10-ton ice machine in the next 30 days and want prices on same.

Kaolin Works, &c.—The South Carolina Mining & Manufacturing Co., Columbia, S. C., incorporated to develop kaolin mines and manufacture brick, pottery, etc., will want machinery.

Lathe.—J. W. Dillon, Catlettsburg, Ky., will purchase a lathe, 21 or 24 inches by 10 or 12 feet.

Laundry.—The Twin City Laundry, Winston, N. C., wants prices and catalogues of laundry machinery.

Machine Shop.—B. W. Walker, 151 Broad street, Charleston, S. C., will want planer, shaper, drill press, lathe, pipe threading machine and smaller tools for a machine shop.

Pipe, Fittings, &c.—Robert K. Martin, chief engineer, Water Department, Baltimore, Md., will receive proposals until January 6 for furnishing 2,785 tons of cast iron pipe from 1½ to 40 inches in diameter, cast iron pipe fittings, brass stops and ferrules, and special brass and iron castings, all from manufacturers only; 4-4 lumber and jute packing from the trade.

Pipe, &c.—Z. P. Dederick, Sherman, Texas, wants 1,000 feet of wrought iron drive pipe, 12 inches inside diameter; also casing, etc., for artesian wells.

Planing Mill.—The Anderson Lumber Co., Little Rock, Ark., contemplates erecting a planing mill.

Pump and Wind-mill.—M. G. Ellis, Fort Worth, Texas, wants a pump and wind-mill for an artesian well.

Pump.—Z. P. Dederick, Sherman, Texas, wants prices on a steam pump of at least 250 M gallons capacity per 24 hours for artesian well.

Rails and Street Railway Equipment.—F. C. Gum, of Kansas City, Mo., wants prices on rails, iron and cars. Address J. P. Douglas, Tyler, Texas.

Saw Mill and Stave Machine.—T. B. Surface, Freeman, W. Va., wants prices on saw mill and stave machine.

Saw and Planing Mills.—The Day-Ritchie Lumber Co., Bales Mills, Va., will want in the spring a steam saw mill; also planing mill and resaw.

Saw Mill, &c.—W. T. Tompkins, Ocala, Fla., will put in a saw mill of 20 M feet daily capacity, edger, lathe, improved flooring and moulding machines.

Soda Water Factory.—R. N. Dominick, West Point, Miss., wants prices on machinery for the manufacture of soda water; also information about the business.

Steam Hoist.—J. R. Miller, Pulaski City, Va., will soon need steam hoist, double cylinders and double drums.

Town Clock.—It is probable that C. M. Wilson, president board of county commissioners, will purchase a town clock for Pensacola, Fla.

Wagon Factory.—Rauch & Crush, Fincastle, Va., want planer and matcher, hub boring machine, wood lathe and other machinery for a wagon factory.

Wash-board Factory.—L. H. Cutler, 26 Middle street, New Berne, N. C., wants prices on wooden wash-board machinery.

Wheel Factory.—J. H. Raush & Sons, Macon, Ga., will want a complete set of wheel machinery, supplies and tools.

Wood and Iron-working Machinery.—The Ammons Cotton Chopper Co., Macon, Ga., will purchase wood and iron-working machinery. Address J. C. Weaver.

Wood-working Machinery.—Wallis & Davis, Waynesborough, Ga., will purchase shaper, scroll saw, universal wood-worker, twist machine and other machinery.

## BURNED.

Apopka, Fla.—The saw mill of M. M. Williams.

Arlington, Ga.—The Davis Saw Mill damaged by a boiler explosion.

Asheville, N. C.—The Asheville Gas Works damaged by an explosion.

Atlanta, Texas.—The dry-kiln of the Atlanta Lumber Co.

Danville, Ky.—The distillery of W. H. Traylor.

Fort Worth, Texas.—The cotton compress of the Fort Worth Compress Co.; loss estimated at \$150,000.

Loganville, Ga.—The grist mill of H. W. Hopkins in Walton county.

New Berne, N. C.—The planing mills of Daniel Congdon & Son; loss \$10,000.

Summersville, Ga.—The shingle and grist mill of J. W. Evans & Co.

Vicksburg, Miss.—The business houses of Switzer, Newitter & Co., Rea & Johnson, Lewis Brothers and others; loss about \$150,000. The first two firms named will, it is said, rebuild.

Yazoo, Miss.—The Citizens' Warehouse, containing 6,000 bales of cotton; loss estimated at \$325,500.

WOOD-WORKING PLANT.—ATLANTIC CITY, N. J., Dec. 30, 1889.—It is our intention to put an entire new plant at Fort Payne. Will not move plant from here. FRAMES, SOMERS & CO.



# Hercules Ice Machines

FOR

Ice Making, Cold Storage, Packing Houses, Breweries, &amp;c.

Send for our new illustrated circular.

Hercules Iron Works, - - - Chicago, Ill.

## Zell's Improved Boilers

Cheapest and best Steam Generators on the market.

RESULTS GUARANTEED.

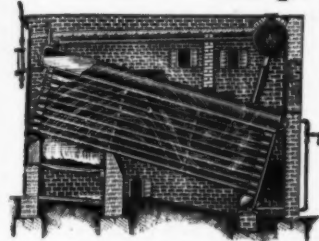
CAMPBELL &amp; ZELL CO.

IRON FOUNDERS,

Manufacturers and Engineers,

ALICE ANNA & EDEN STREETS,  
BALTIMORE, MD.

Send for circulars



## WATER POWER UTILIZED.

at any distance from source by ELECTRICAL TRANSMISSION. The simplest, cleanest and cheapest to operate for Mining, Street Railways, Electric Lighting and Manufacturing.

C. S. VAN NUIS, Constructing Electrical Engineer,  
18 CORTLANDT STREET, NEW YORK.C. R. MAKEPEACE & CO.  
ARCHITECTS and MILL ENGINEERS  
PROVIDENCE, R. I. Plans, Specifications and  
Estimates furnished for Cotton and Woolen Mills.WRITE FOR PRICES TO  
THE SOUTHERN EQUIPMENT CO.  
Representing reliable manufacturers of  
Railway, Mining and Mill Supplies.  
ORDERS FILLED PROMPTLY.  
Chattanooga, Tenn.

THE committees appointed by Hamblen county, Morristown, Tenn., and the Business Men's Association of Morristown have decided to accept the proposition of the American Association, Limited, in which that Association agrees that on a guarantee from Morristown and Hamblen and Grainger counties of \$150,000, a railroad will be built from Morristown to a connection with the Knoxville, Cumberland Gap & Louisville Railroad at Cedar Ford. The road is to remain under the management of the American Association, Limited, which is to guarantee the rates on the proposed line. This project is an exceedingly important one, as the building of this line would complete a direct road from Morristown to Middlesboro, opening up splendid Bessemer ore properties near Morristown, and furnishing a short line for Cumberland Gap coke to Morristown.

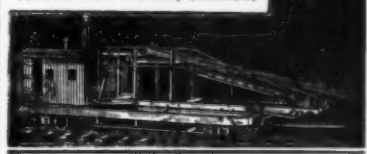
ONE of the most pleasant little excursion trips in this vicinity is a trip over the Bay Line between Baltimore and Norfolk. To the many who are fond of going by one route and returning by another, we can commend the run from Norfolk to Washington by the George Leary, a well-appointed craft with a careful captain, a courteous purser and all the comforts of modern steamboat equipment. A trip down the bay, a run up the Potomac, an hour's rush by rail to home, furnish all the varieties and diversions a weary business man could desire for two days' rest and recreation.

The BOOMER & BOSCHERT  
KNUCKLE JOINT

PRESS

FOR BALING  
Cloth, Paper, Yarn, &c.  
Or for any other purpose requiring  
great pressure.  
BOOMER & BOSCHERT PRESS CO.  
329 W. Water St. Syracuse, N. Y.

CAR PILE DRIVERS

Extension truss, to drive from one bent to another. 20 feet into air swing, 8 feet from center. Fitted up with our new-style Nasmyth Steam Pile Drivers.  
VULCAN IRON WORKS, CHICAGO.

The Fort Worth Loan &amp; Construction Co.

CAPITAL, FULLY PAID, \$100,000.

We are prepared to furnish plans and construct large buildings, public or private, and when desired carrying part of the cost of construction as a deferred payment.

PRINCIPAL BUSINESS OFFICE, FORT WORTH, TEXAS.  
EASTERN OFFICE, EQUITABLE BUILDING, BOSTON.W. H. COLE,  
Electrical ENGINEER

Consulting Electrician,

80 Fifth Ave., New York.

Tests, Measurements and Estimates of all kinds. Sole agent of the Phoenix Incandescent Lamp Co. Lamps for any System and Candle Power.

POPULAR AND DIRECT ROUTE.

THE BAY LINE

For Old Point Comfort, Norfolk and the South.

Steamers leave daily (except Sunday) Union Dock 6.30 P. M., Canton Wharf 7 P. M.; arrives Old Point Comfort 7 A. M., at Norfolk at 8 A. M., Portsmouth 8.15 A. M. At OLD POINT COMFORT connect with CHESAPEAKE &amp; OHIO RAILROAD for Richmond, Charlottesville, Greenbrier, White Sulphur Springs, Louisville, Cincinnati and all points West. At NORFOLK with NORFOLK &amp; WESTERN RAILROAD for Petersburg, Richmond, Lynchburg, Roanoke, Bristol, Knoxville, Chattanooga, Memphis and the Southwest; also with the NORFOLK SOUTHERN RAILROAD for Elizabeth City, Edenton and Eastern North Carolina. At PORTSMOUTH, VA., with SEABOARD &amp; ROANOKE RAILROAD for Weldon, Raleigh, Southern Pines, Charlotte, Fayetteville, Newberne, Wilmington, Charleston, Columbia, Augusta, Savannah, Jacksonville and all PRINCIPAL SOUTHERN CITIES.

Palace Steamers, Unsurpassed Cuisine, Undisturbed Night's Rest. Sure Connection.  
For Tickets and information apply at Company's Office, 129 E. Baltimore St. or on board steamers.  
E. BROWN, G. T. A. KATHON JONES, Agent.

## THE LAND OF THE SKY.

The Exploring Party Still in the Carolina Mountains.

Johnson City to be a Meeting Place for High-Grade Ores and Coke.

GEN. WILDER AND HIS WORK.

HEADQUARTERS  
MANUFACTURERS' RECORD'S  
EXPLORING EXPEDITION.  
IN THE NORTH CAROLINA MOUNTAINS.  
December 26, 1889.

It would be rather a queer sort of party that could be kept together in all its integrity at Christmas tide. Ours is not an exception in that respect, except that in this case we are not allowing Christmas to run over New Year's Day as is indeed the time honored custom in these regions. The exigencies of our service do not admit of it, but, do the best we can, the season is one of almost complete disorganization as far as business or travel is concerned. Inanimate things like railway trains join with apparent enthusiasm in the general relaxation of duty according to schedule, and it took me two days, mostly spent on side tracks, to get from Birmingham, Alabama, to Johnson City, Tennessee, where I expected to join the boys. Being thus delayed, I found that they had gone on to the central part of North Carolina, agreeably to an order I had sent, not to wait for me, under certain contingencies. Henry, my faithful Friday, on account of his race, color and previous condition of servitude, is not expected to be faithful at Christmas time, and wasn't. Altogether the situation has been rather of the "bricks without straw" order for a couple of weeks. The New Year, prolific of good resolutions and renewed efforts, will find us all at it again, with better results than ever I hope.

Looking over the entire field, the best place to start in for a thorough exploitation of the mineral districts of North Carolina, is at Johnson City, Tennessee. This may seem paradoxical, but the northeast corner of Tennessee belongs geologically to North Carolina, and for all our present purposes is a part of it. Here the great resources of hematites and magnetites are present in vast quantities, and for that matter the famous Cranberry mines are only a step over the State line.

There are many things of historic and other interest in the neighborhood of Johnson City to tempt one to a divergence from the path of science, and yet all connected, too, with that great evolution of the American people, which has brought about the present industrial conditions of the prosperous South. Looking to the Southeast a few miles, the Buffalo mountain looms up. This elevation has at its eastern end a break, a partial gap, over which there was once a great Buffalo trail, leading from the South Carolina country into these valleys, and thence across by Estillville to the cane brake regions of Kentucky. The same trail was used by the Indians, when on the war-path, and by Daniel Boone when he came into the country from North Carolina. On Buffalo mountain the spot is pointed out, where Boone built his first cabin in these regions, and where, it is said he abode for a season, hunting and trapping, before he extended his adventures Northward through the Cumberland Gap.

Between Johnson City, and Greenville, about a mile and a half from the railway, the celebrated Davy Crockett was born and "raised," and of course, the vicinity is farther associated with the early struggles and rise to fame of the great commoner President, who, beginning active life in Greenville as a poor tailor, who did not even

learn to read until he was a man grown, at length became chief executive of the United States, and a lasting figure in American history. His shop and his old sign: "A. Johnson, Tailor," are yet to be seen by the curious visitor.

From Greenville across to the mountains that form with their meandering line, the boundary between Tennessee and North Carolina, is but a matter of a few miles. They are in full sight from this point all the way Northeast to and beyond Bristol. Looking at the geological maps of the district, an idea may be gained of the extent of the iron territory of Northeastern Tennessee and Western North Carolina. From the Kentucky line to South Carolina the iron bearing mountains, running Northeast and Southwest, occur in successive ridges away down into South Carolina North of the line of say Johnson City, the Clinton and Oriskany horizons belong rather to the Cumberland Mountain system, and have been treated of heretofore, but South we have the characteristic ores of North Carolina, the rich hematite of the Cambro-Silurian and the magnetites and manganiferous ores of the Azoic formations. Here we have the principal deposits of Bessemer ores of the South, and as pretty nearly everybody interested in the subject is aware, it has been at once the dream and strenuous effort of leaders like General J. T. Wilder, who started the pioneer iron industry in Chattanooga, Professor Procter, General Imboden and others of like eminence, for many years past to bring them into practical association with the superior coking coals of Eastern Kentucky and Virginia, and, at the same time to furnish the latter with an outlet to the sea.

In connection with this movement, and also with the reports of the MANUFACTURERS' RECORD expedition on the Big Sandy Valley and the Elkhorn coking coals last summer, Johnson City is worthy of our attention as a sort of pivotal point on the line of connection between perhaps the richest ores, and certainly the richest coking coals south of Mason and Dixon.

When General Wilder and his associates started the town of Carnegie immediately adjoining the present town of Johnson City, a Nashville paper expressed some objection to the name, as being that of a bloated capitalist, and calculated to detract from the interests and dignity of the neighboring settlement, whose appellation the journal assumed with amusing error, had been given in honor of the late Andrew Johnson. The facts are that Andrew Carnegie is reported never to have heard of the place named for him, and certainly has no interest in the scheme, while Johnson City was not intended to commemorate the ex-President, but an old farmer who kept a county store on and owned the site.

Johnson City is not well laid out. The streets remind one of the crooked corn paths which doubtless they originally were. Good houses are mixed up with stables and cow sheds and there is neither order or intention visible as to anything. But a modern town is to be placed on a most beautiful site, just outside of the present corporation. The townsite of Carnegie covers two square miles of fine open, slightly rolling land, surrounded by beautiful woods and hills. Ground has been broken for a large hotel, and material is being unloaded for a number of buildings, including a bank, and several large business blocks. A fine station and freight depot are under way. It is no business of expedition to boom towns or private enterprises. It is necessary, however, to say something about this coming industrial center of Carnegie, because of its positive relations to the ore and coke developments of this important region.

In a very short time, considering the difficulties of railway construction in such a mountainous country, the Charleston,

Cincinnati & Chicago Railway will be completed to a close connection on the North side of the Ohio river. The road is already completed and in operation from Charleston to Rutherford in North Carolina, and will be completed to Marion, N. C., forty odd miles south of Carnegie, by spring. It is all under contract to the Breaks of the Sandy, where heavy work has been in progress for a long time. It is expected that this part of the enterprise will be finished, so that the Elkhorn coking coal, one of the finest basins of which is situated close to the Breaks, can be brought down to meet the magnetic ores at Carnegie, by the time the iron and steel plant at that point, the capital for which has been subscribed, shall be ready to go into operation.

From the Breaks the "3 C's," as the Charleston, Cincinnati & Chicago Railway is abbreviated and known after the exasperating American fashion, will run up the Sandy to Whitehouse, from which point to Richardson, eight miles, the company has a link temporarily operated by the Chatteroi road. Thence to Ashland the Charleston, Cincinnati & Chicago will parallel the Chatteroi and thus reach the turbid waters of the great Ohio—and there you are. Reference has been made in earlier papers to the probability that by this and the Chatteroi lines, the Elkhorn coke can be carried to the Ohio lake front economically enough to justify its transportation to the upper lake regions. That prospect seems to grow apace. Advanced investigation seems to point to such a low cost of mining the Elkhorn coal from its huge seams; such economical manufacture into a coke well adapted to long distance transportation, and showing 93 to 95 per cent. of fixed carbon in the coke, that for one I have no doubt it can be done, in successful competition with the product of Connellsville, which latter has been able to force its way everywhere, even to the remote smelters of the Rocky mountains.

GOLDSMITH BERNARD WEST.

TO ENLARGE WHEEL FACTORY—MACON, GA., Dec. 30, 1889.—We are contemplating doubling our entire works in the spring, and will need a complete set of wheel machinery, supplies and tools.

J. H. ROUSH & SONS.

LINDSAY, MINES & CO., of Philadelphia, dealers in iron, steel, ores, coal and coke, send New Year's greetings to their patrons and friends in the shape of a handy celluloid envelope opener.

THE 'MANUFACTURERS' RECORD is informed that the Hercules Iron Works, of Chicago, are so busy that they are running night and day, but still they are able to fill all orders promptly. One of the latest orders received by this company from the South is for a 25-ton ice machine to go to Waco, Texas, where a strong company has been organized to manufacture ice.

A MOST able discussion of the question of free trade and protection, by William E. Gladstone, representing free trade, and James G. Blaine, protection, is published in the January number of the North American Review. Both these papers will be read with a great deal of interest by the readers of the MANUFACTURERS' RECORD, as it is probably the most able discussion of this great subject yet made. Another article in this number that will be of deep interest to the South is one by Jefferson Davis on General R. E. Lee. The whole table of contents is an unusual brilliant one, and to accommodate it all, the magazine is considerably increased in size over its usual form. Price 50 cents a copy or \$5 a year by the North American Review, 3 E. 14th street, New York.

## Beehive Power Plant

E. A. Parsons will organize at once a joint stock company, capitalized at \$60,000, to erect at Salem a "Beehive" Power Plant. The building will have a capacity of over 50,000 square feet of space with power to rent to manufacturers of large and small capital. Parties wanting space as above can learn particulars by applying to the promoter.

**E. A. PARSONS,**  
SALEM, VA.

DESIRABLE INVESTMENTS IN SOUTH LYNCHBURG, VA. We have for sale, on easy terms, Lots in South Lynchburg, immediately adjoining Lynchburg, the railroad center of the State, and a growing city of 25,000 inhabitants. Our property has recently been platted and is eligibly located on the Richmond & Danville R. R., within a stone's throw of the Lynchburg & Durham R. R.; the Belt Line of the Norfolk & Western R. R., now under construction; the new Cotton Mill with a capacity of 2,000 spindles; the Machine Shops of the Lynchburg & Durham R. R., just completed; large Planing and Grist Mills, and Durmid Depot, the junction of the Virginia Midland and the Lynchburg & Durham Railroads. For particulars and prices, apply to PETER J. OTT, Pres't L. & D. R. R., C. DEWITT, V. Pres. Lynchburg Nat. Bank, J. E. EDMUNDS, Director in and Att'y for Lynchburg Com. Bank, Lynchburg, Va.

## An Experienced Manufacturer

prepared to invest \$25,000.00 in the Company is wanted to take charge of the construction and operation of the

## PORT GIBSON COTTON MILLS

OF PORT GIBSON, MISS.

which are being reorganized, extended and improved under a new company with a capital stock of \$200,000.00.

The new Company, of which \$100,000.00 stock is subscribed in New Orleans and by the citizens of Port Gibson in cash, will have the entire plant of the old Company as a nucleus, at less than one-half its original cost. This consists of 17½ acres of land in the town, with a new and substantial brick factory building, containing ample motive power for the proposed extension and 108 looms, 3,400 spindles and all mill machinery. Liberal exemptions and privileges are granted by the State of Mississippi. The site is one of the best in the South.

Parties properly qualified as above are invited to address

**V. & A. MEYER & CO.**

New Orleans, - - - Louisiana.

## WANTS.

**WANTED.**—Card Dyer, Carder and Spinner, and other competent mill hands. Address CALUMET COTTON FACTORY, Mammoth Spring, Ark. State references and experience.

**WANTED.**—Situation as Superintendent of Cotton Mill; best of references from present employers, with whom have been with as such for nearly 20 years, and others to whom I am well known. Address HUGH BONE, Elliott City, Howard county, Md.

**A SUPERINTENDENT WANTED.**—We desire at once a live, active, sober man to manage our Cotton Yarn mill. Must have experience and know how to manage good white help. Mill 3,000 spindles. MILLER, BLANTON & GATES, Shelby, N. C.

**WANTED.**—A position as Bookkeeper or clerk by a young man 25 years of age, who has filled the two positions together for six years in the hay, grain and retail lumber business. Good plain writer. Best of references furnished. Address BOOKKEEPER, Box 77, Port Deposit, Md.

## Wanted a Partner with Capital

to manufacture and sell Sherman's Patent (No. 313,900) Baling Press, which removes ergot, dust, &c., from hay, straw, &c., while baling. Address

**J. S. SHERMAN,**  
CASSOPOLIS, MICH.

## WANTED.

A Good Business Man Would Invest a few thousand dollars in some good mechanical business or would join parties about to organize or extend their business in the South. Address "F. L. T.," care of Manufacturers' Record, Baltimore, Md.

## A SAFE INVESTMENT.

**WANTED \$8,000 or \$9,000**

for five years at 6 per cent. interest. First mortgage on paying manufacturing establishment given as security. Absolutely safe. Address "J. E. B.," care Manufacturers' Record.

## NOTICE

To Contractors or Manufacturers of Heating and Plumbing Appliances, Elevators, &c.

I require in hotel of about 120 rooms, six stories, length 111 ft. x 100, to be heated with steam, and thoroughly fitted with wash-basins, bath-tubs, urinals, etc. and gas fittings; also passenger elevator and appliances for working same by air and water from an accumulator. An iron tank of not less than three thousand gallons on roof of building, etc., etc.

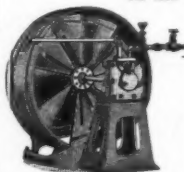
I am prepared to enter into contracts with a responsible party, with cash payment on satisfactory completion of this work.

The plans and premises can be viewed in Roanoke until December 15th, 1889.

Satisfactory references can be given.  
**C. G. SMITH,**  
Commercial Hotel, ROANOKE, VA.

## CLARK'S

Drying, Ventilating & Exhaust Fans  
With First-Class Engine Attached.  
Get the best Fan for Drying and Ventilating in the market.



The Clark light-running Exhaust Fans. Self-Oiling Bearings. Adjustable Wings; also first-class high speed Engines attached to frame of Fan when desired. Fans and Engines in combination or separate at lowest prices. Catalogue free.

**GEORGE P. CLARK, Box C, Windsor Locks Ct.**

## PROPOSALS.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 14th day of January, 1890, for all the labor and materials required to complete the approaches to the U. S. Court House, Post Office, &c., building at Rochester, New York, in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. The department will reject all bids received after the time fixed for opening the same; also bids which do not comply strictly with all the requirements of this invitation. **JAS. H. WINDRIM, Supervising Architect.** December 17th, 1889.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 8th day of February, 1890, for the erection and completion of a wharf, coal bin, revetment, &c., for the U. S. Jump Revenue Station, Plaquemine Parish, La., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent, Charles G. Johnson, U. S. Custom House, New Orleans La. Each bid must be accompanied by a certified check for \$200. The Department will reject all bids received after the time fixed for opening same; also bids which do not comply strictly with all the requirements of this invitation. **JAS. H. WINDRIM, Supervising Architect.** December 30th, 1889.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 5th day of February, 1890, for furnishing the labor and materials and putting in place complete the steel linings, including doors for two vaults, required for the U. S. Mint building at San Francisco, Cal., in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the Superintendent of the Mint. Each bid must be accompanied by a certified check for \$200. The Department will reject all bids received after the time fixed for opening same; also bids which do not comply strictly with all the requirements of this invitation. **JAS. H. WINDRIM, Supervising Architect.** December 28, 1889.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 28th day of January, 1890, for all the labor and material required to fix in place complete the Low-pressure, Return-circulation Steam-heating and Ventilating Apparatus, including power boiler and connections, for the United States Postoffice, &c., building at St. Joseph, Mo., in accordance with drawings and specification, copies of which may be had on application at this office and the office of the superintendent. Each bid must be accompanied by a certified check for \$200. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. **JAS. H. WINDRIM, Supervising Architect.** December 27th, 1889.

**THE BOARD OF SUPERVISORS** of this county will either repair the present jail by putting in steel cells, or build a new jail. Correspondence from contractors solicited. **E. H. VAUGHAN, Clerk of the Board, Halifax C. H., Va.** January 1, 1890.

## BUTTE, MONTANA,

The railroad, mining and commercial center of the new State, offers some of the best inducements for investments in Real Estate, Mines and Mining Stocks of any locality in the Northwest.

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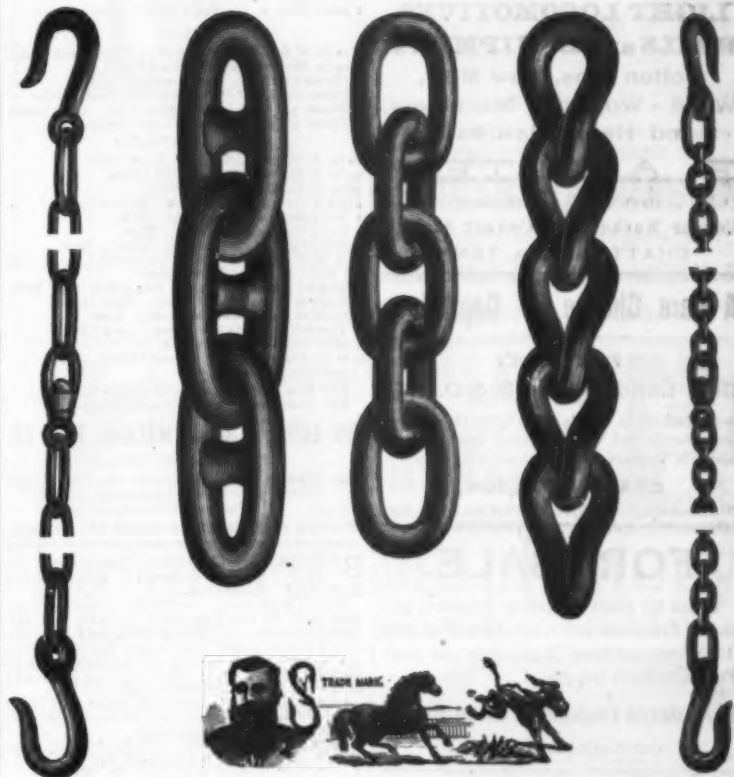
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 These Locomotives have been overhauled. All are in good condition, ready for immediate use.  
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 Also some second-hand steel rails.

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 25 38-in. Gauge Dump Cars.  
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STEAM shovels and wrecking cars are illustrated and described in a most excellent manner in the neatly-bound, nicely-printed and well-engraved catalogue issued by the Bucyrus Foundry & Manufacturing Co., of Bucyrus, Ohio. Plates and reproduced photographs illustrate accurately the conception and scope of these devices and show what an immense amount of work they can accomplish. The high esteem in which they are held is well shown by the list of leading railroads which use them. The shovels are made in several models, including dredging machines, and wrecking cars are arranged with either one or two cranes of different size and power. This catalogue should be in the office of every railroad and every construction company. Copies of it can be had by applying to the company; also copies of a separate catalogue on dredging machinery.

THE following testimonials from well-known Chicago concerns were recently received by the Corey Car & Manufacturing Co., Chicago, Ill.: From the T. W. Harvey Lumber Co., Chicago—Please deliver to our Portable House Factory, at 22d and Morgan streets, Chicago, one of your new self-feeding Edwards saws, same as placed in our planing mill some weeks ago; the saw of yours which we now have in has given the best of satisfaction, and we think it is superior to any we have ever seen. August F. Richter, manufacturer of fine ornamental gilt mouldings and picture frames, Chicago—The improved Edwards self-feeding rip saw in use in our factory has given entire satisfaction, and in our estimation it is the best machine of its kind made. F. C. Austin Manufacturing Co., Chicago—The saw we bought of you on May 1 has really paid for itself; we have examined several self-feeding saws, and this is the best one we know of; we highly recommend it to anybody wanting a self-feeding saw.

So much has been said on the subject of wealth from waste, that furnace operators and miners of ore who are turning their attention to the various economies possible in preparing ore, will read with much interest a treatise on the mechanical dressing of iron ores issued by McLanahan & Stone, of Hollidaysburg, Pa. It discusses the proper preparation of ore, especially the hematites. Mr. McLanahan, being largely engaged in mining and manufacturing, the success of the jig manufactured by his firm was to him a matter of considerable importance in his own operations. There are many furnace men who have never attempted to estimate the cost of smelting the foreign material contained in their ores. It is not unusual to find furnaces using ore containing 20 per cent. of foreign matter, which might be taken out by a good jig. It is generally found to pay to use jigs if only five per cent. or less of foreign matter can be jigged out. It is well known to the metallurgist that it costs more to smelt the foreign matter than the same amount of ore. In estimating the cost of using low grade ores, not only the

cost of coke, lime and furnace labor required to smelt this barren material must be considered, but cost of freight, handling and storage, and taking care of increased amount of cinder. It also decreases the available capacity of furnace and capital for profitable work. This is an economic device that will be of much value to the South.

## Literary Notes.

THE FORUM for January is a strong number of a usually forceful publication. Among the contributors are ex-Speaker Carlisle, Maj. J. W. Rowell, W. S. Lilly, Prof. Goldwin Smith, Henry Labouchere, Prof. R. H. Thurston, Col. Fred. A. Conkling, Dr. J. M. Charcot, Geo. T. Kercheval and Prof. Rodney Welch. These writers treat of such topics as The Tariff and the Farmer, Prehistoric Man in America, The Ethics of Marriage, Woman's Place in the State, Democracy in England, The Problem of Air Navigation, Abuses of the Veto Power, Magnetism and Hypnotism, The Wrongs of the Ute Indians and Horace Greeley's Cure for Poverty—a strong and readable series of discussions upon timely topics.

THE Popular Science Monthly for January contains "The Future Situs of the Cotton Manufacture of the United States," by Edward Atkinson, LL.D., Ph.D., (Illustrated); "Public Schools as Affecting Crime and Vice," by Benjamin Reece; "The Taoist Religion," by Warren G. Benton; "Letters on the Land Question," by Herbert Spencer, Frederick Greenwood, Prof. Huxley, Sir Louis Mallet and John Laidler; "Two and a-Half Per Cent," by George Iles; "The Rare Forms of Orchids," by J. Dybowski, (Illustrated); "Irrigation of Arid Lands," by Henry J. Philpott; "Palm-trees and Their Uses," by M. J. Poisson, (Illustrated); "A Harvest from the Ocean," by Prof. C. Morton Strahan; "Birds with Teeth," by Otto Meyer, Ph.D., (Illustrated); "The Effect of Cave Life on Animals, and its Bearing on the Evolution Theory," by A. S. Packard; "The Chinese Theory of Evolution," by Adele M. Field; "Sketch of Alexander Wilson," (with Portrait); Correspondence: "Farming and the Tariff," "A Remonstrance," "Environment and the Reproductive Power of Animals," "A Correction."

A VAST amount of hard work, in both editorial and advertising departments, is shown in the "Bankers' Edition" of the Baltimore MANUFACTURERS' RECORD. We congratulate Mr. R. H. Edmonds, the editor, upon this latest stroke of enterprise.—Cleveland Iron Trade Review.

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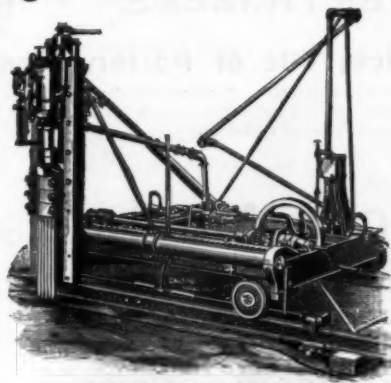
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WE HAVE RECENTLY PUT ON THE MARKET A  
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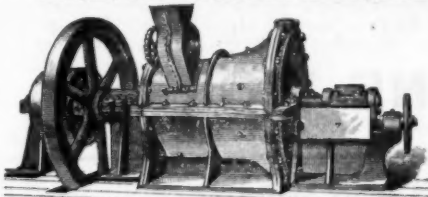
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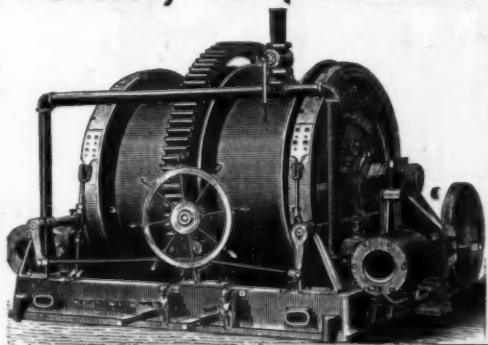
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GENTLEMEN—After carefully inspecting your mill and seeing it in operation, I do not hesitate to say that it is one of the best, if not the best pulverizer and most complete gold-saving machine I have ever seen. Please accept congratulations for your success.

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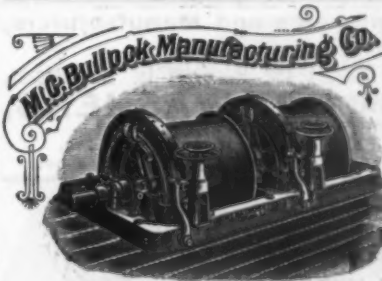
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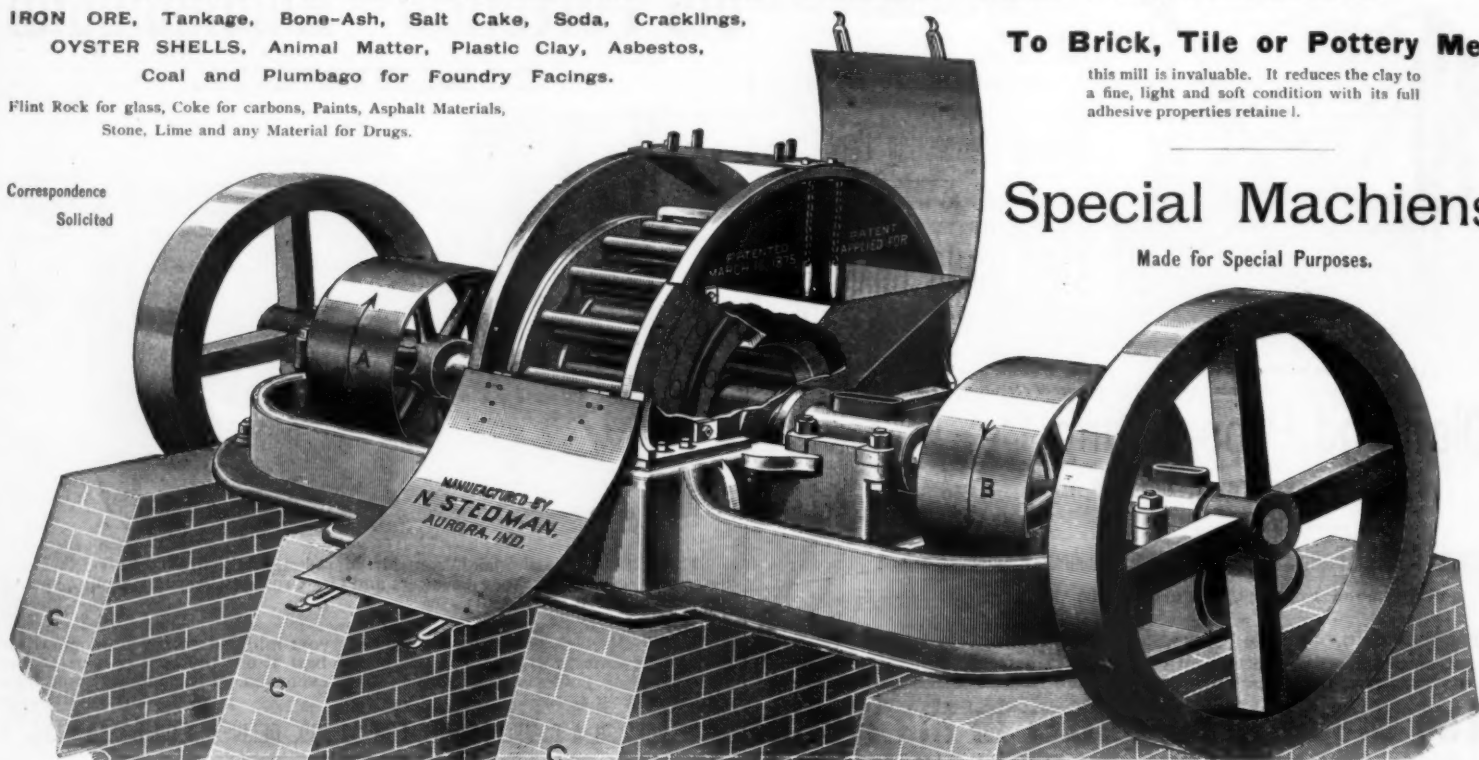
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To Brick, Tile or Pottery Men

this mill is invaluable. It reduces the clay to a fine, light and soft condition with its full adhesive properties retained.

### Special Machines

Made for Special Purposes.

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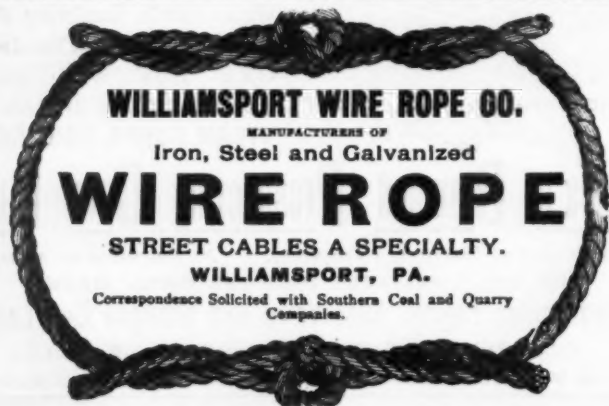
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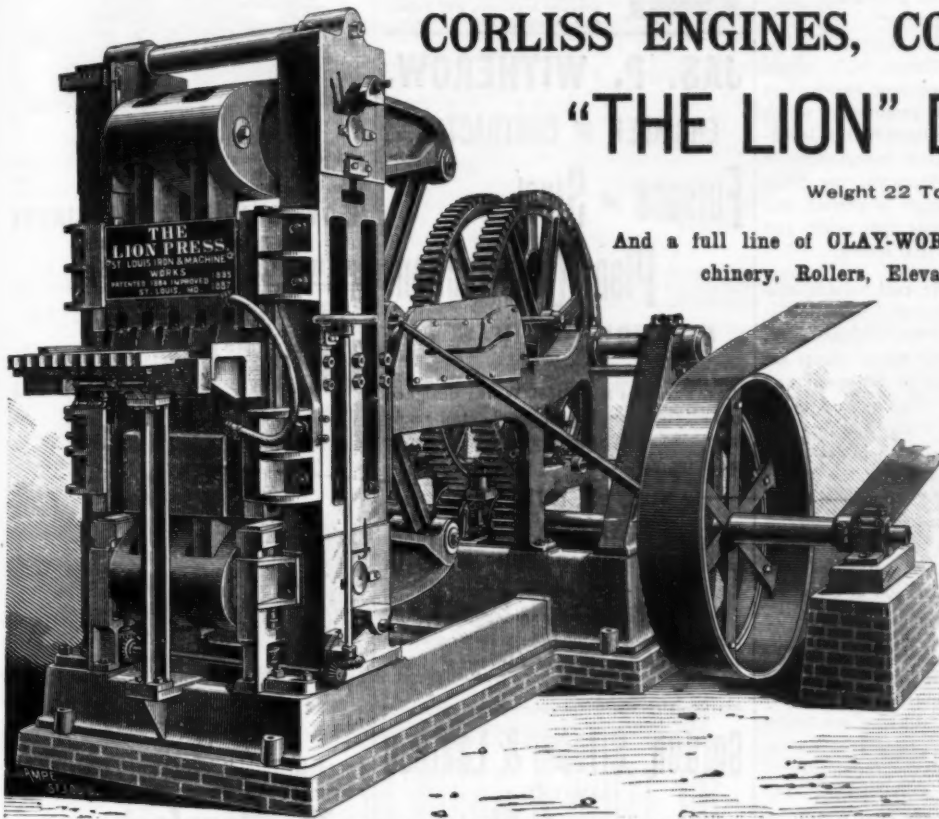
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We contract to furnish complete Brick-Making Outfits. Write for catalogue, photographs and specifications and read the following letter from a well-known Memphis concern:

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GENTLEMEN: In reply to yours of 25th inst. we beg to say that our Company contracted with you last spring for one of your "Lion" Brick Machines, having concluded, after our president and superintendent had thoroughly investigated most of other machines, including the Hydraulic, that yours possessed more advantages and promised better results. In due course the machine was delivered, set up and put into operation. After having operated it all summer to full capacity we are more than pleased with results and can heartily recommend the machine to anyone contemplating a purchase. To fully appreciate the merits it must be seen performing work. Wishing you that eminent success which you so well merit, we remain  
Yours truly,  
C. W. EDMONDS,  
Secretary and Treasurer.



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Elevators, Plate-Glass and Mining Machinery.

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WE TEST ALL CLAYS SENT PREPAID FREE.

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A SPECIALTY.

## TRADE NOTES.

AMONG the neatest of the myriad of calendars which crowd our table is that of the Laidlaw & Dunn Co., manufacturers of pumping machinery and dealers in railroad and general supplies, Cincinnati, Ohio.

To all who would get a comprehensive notion of the industrial importance and possibilities of the thriving city of Macon, Ga., we would commend the special industrial issue of the Macon Evening News.

CONTRACTORS' SUPPLIES.—Smith & Courtney, 1419 Main street, Richmond, Va., dealers in supplies for railroads, contractors, machinists, miners and mills, issue for the trade a handsome calendar for the year 1890.

DURING December the Ball Engine Co., of Erie, Pa., shipped 39 engines running from 35 to 250 horse-power each. Their shipments for the month extended as far West as California and Washington, and South as far as Florida.

THE First National Bank of Little Rock, Ark., the oldest financial concern of the kind in that growing but as yet largely undeveloped Commonwealth, issues a neat calendar for the year 1890, with a handsome photo-gravure of the bank building. Hon. Logan H. Roots is president, and P. K. Roots, cashier.

THE American Ring Traveller Co., Providence, R. I., issue a calendar for the year, backed by a beautiful chromo-lithograph, illustrative of a pastoral scene depicted by an artist of rare ability. The Wilson ring traveler is an invention designed to increase production in spinning, and is worthy of the attention of the entire trade.

ELIZABETH, N. J., ILLUSTRATED.—Many cities are issuing pamphlets to describe their respective advantages. Many of these are sizable and attractive books, but none that we have seen excels one on Elizabeth, issued by the Elizabeth Journal. It is a book of 156 pages, medium quarto size, printed on rich, cream-white paper, and embellished with nearly 400 illustrations. These are, in quality, the best that can be produced by photo-electric engraving, and are equal to many of the half-tone pictures that appear in the standard magazines.

THE manufacturers of the Wells portable light send out a striking illuminated calendar of their light. Half a dozen pictures illustrate some of the many uses to which this light can be put. It is easily moved about and can be made to give light up to 2,000 candle-power from oil. We know of no light that could be more useful where night work is required and a strong light demanded. It is easily moved about and requires very little care and attention. Copies of this calendar and information regarding this light can be had by applying to Keegan & Halpin, New York.

THE manufacturers of the Westinghouse engines report an enormous demand for their engines. For the first ten months of 1889 they sold 653 engines, with an aggregate of 33,450 horse-power. The October record was the red-letter month to date, being 109 engines, with an aggregate of 5,940 horse-power, or an average of 54 horse-power. In November orders exceeded those of October. The deliveries for November were five less than for October, but the aggregate horse-power was much greater, 7,180, thus making the average per engine 70 horse-power. Such enormous sales as these are the best guarantee as to quality an engine could have. Orders came from all parts of the United States in October; also from Mexico, France, Spain, Italy and elsewhere.

THE business of the National Pulley Covering Co., of Baltimore, during November came from 17 widely-separated States, including some remarkably large coverings from Louisiana, Western Pennsylvania, Ohio and Michigan. This company will issue on January 1st a new price-list, notice of which will appear hereafter, much simplifying the sale of their goods.

IMPROVED BARN DOOR HANGINGS.—The Cronk Hanger Co., Elmira, N. Y., advertise the Cronk steel-covered anti-friction barn door hanger, the patent upon which they control. It is claimed for this invention that it is absolutely independent of weather changes. Moreover, the track supplied with the hanger is perfect, and the Cronk Co. guarantee right prices and good work, and invite trial orders.

THE Jeffrey electric coal mining machines are now in successful operation at Shawnee, Ohio, Jops, Ohio, Thurmond, W. Va. and Cannelton, Pa. Other plants are in process of erection at Fairmont and Parkersburg, W. Va. This is said to be the only electric coal mining machine now offered to the public which is in daily operation, and the manufacturers, the Jeffrey Manufacturing Co., of Columbus, Ohio, are to be congratulated upon the success they have achieved. Their electric haulage system is also said to be a perfect success, and is in constant operation at Shawnee, Ohio and Thurmond, W. Va.

RUBBER WORKING MACHINERY.—The fact that the National Iron Works, New Brunswick, N. J., are completing a very large order for rubber working machinery purchased for a rubber factory in Russia, is strong evidence of the superiority of American goods and workmanship. The selection of the National Iron Works machinery was made after examination of the work of different factories in Germany and England and this country. The order could have been filled much more cheaply in Europe, but the excellence of the American product was thought to more than balance the difference in price.

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**Ice-Making & Refrigerating  
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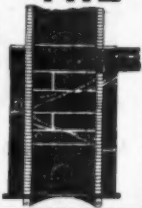
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DATING, CANCELING AND OFFICE STAMPS**  
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Manufacture those celebrated  
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**HOT BLAST CUPOLA,**  
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Smokeless and Automatic Feed  
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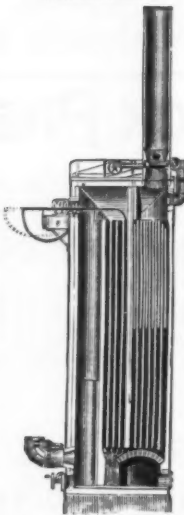
Blast Furnaces and Steel Works designed  
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I can guarantee promptness in execution,  
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Cinder Cars, Charging Barrows, Blast Fur-  
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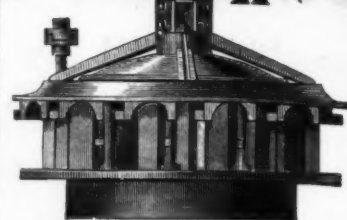
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**STEARNS' NEW  
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WITH NEW ADJUST-  
ABLE BED PLATE.  
23 1/2 inches high.  
Weight 29 lbs. Drills  
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Extension crank for large  
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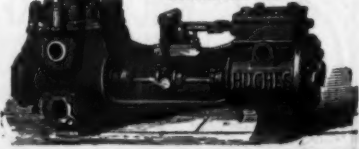
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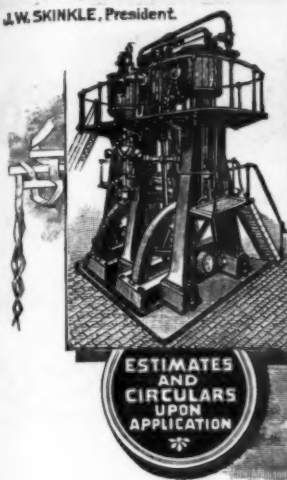




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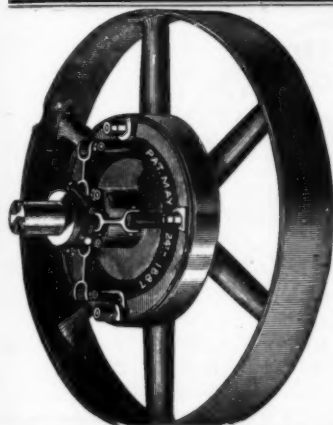
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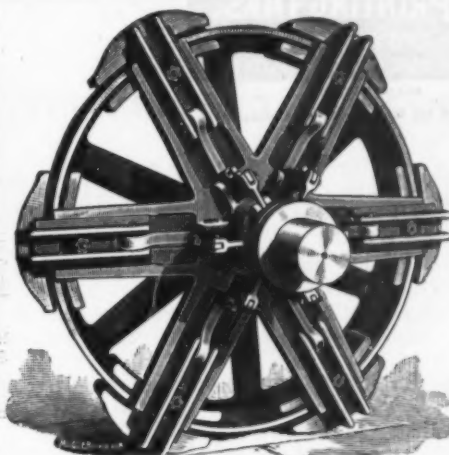
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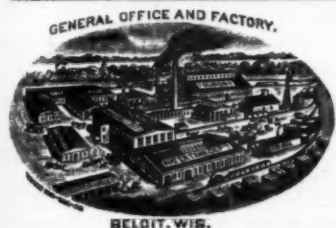
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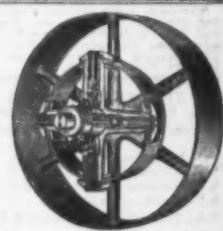
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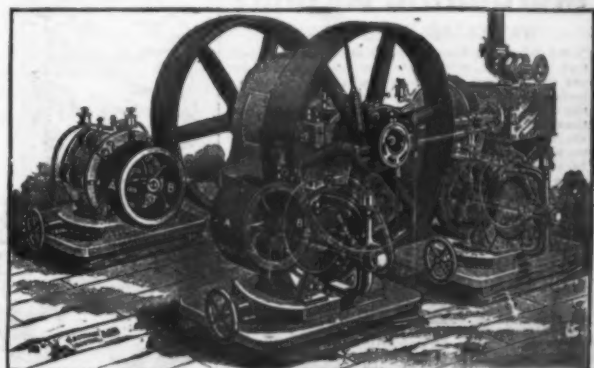


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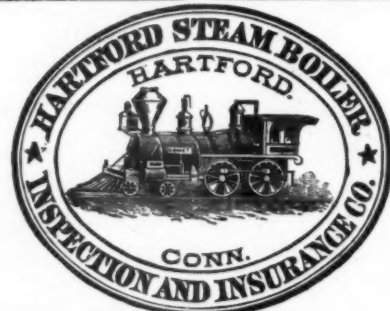
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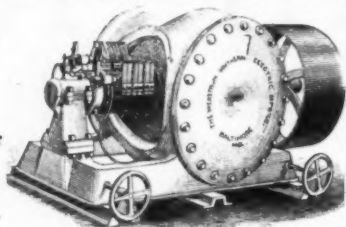
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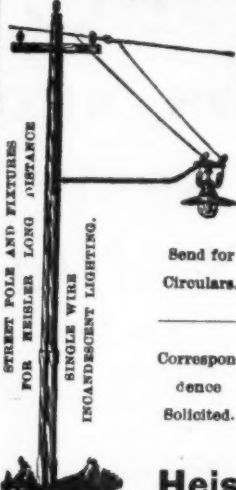
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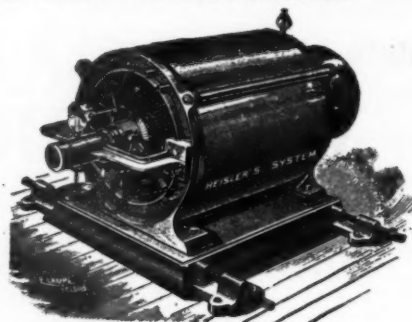
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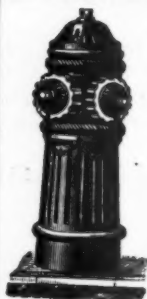
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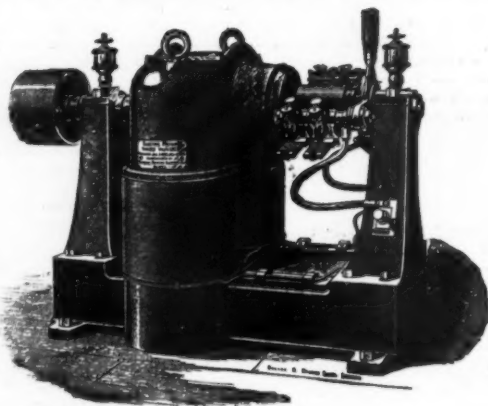
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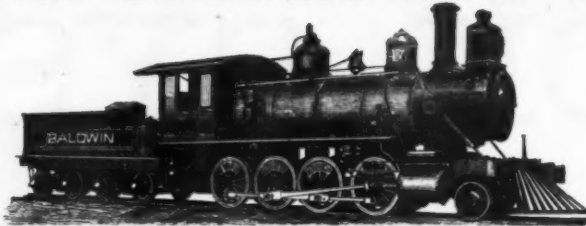
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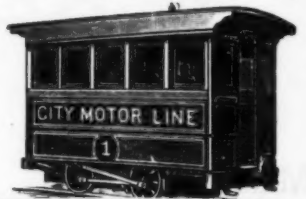
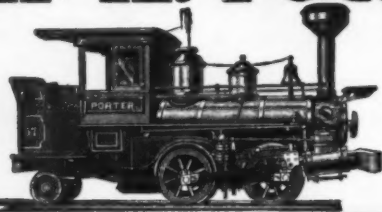
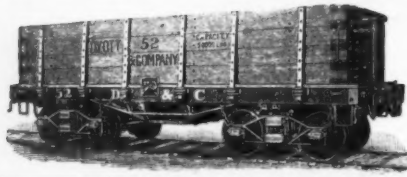
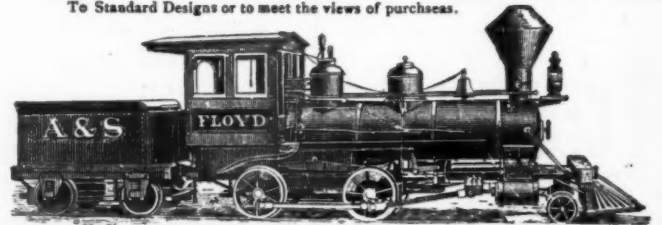
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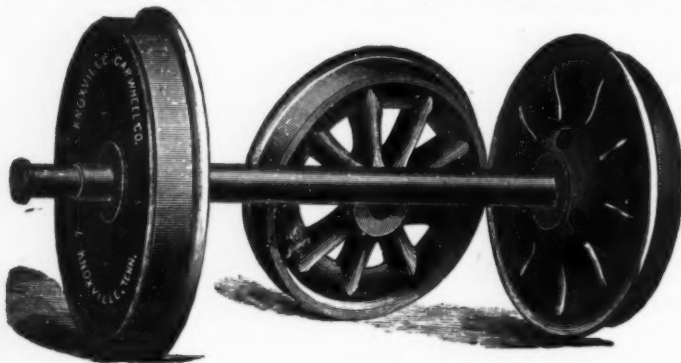
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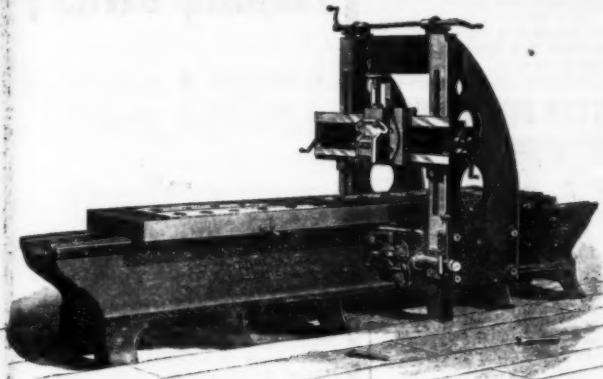
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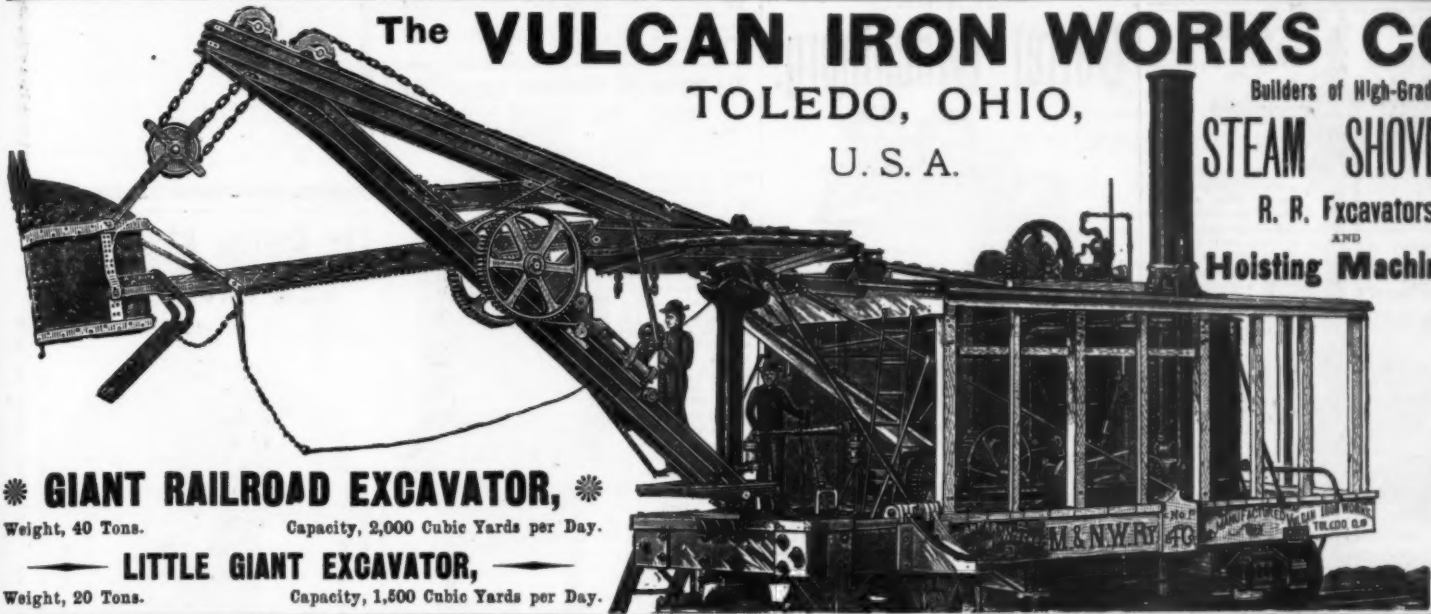
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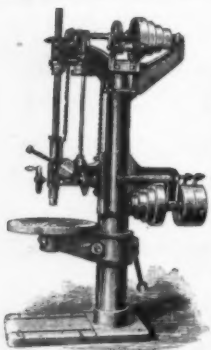
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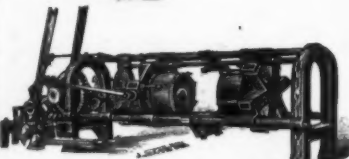
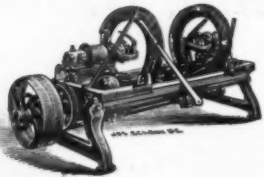
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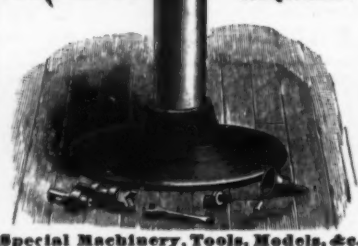
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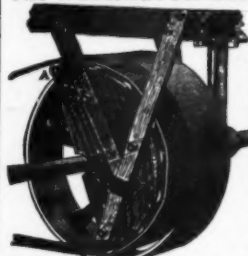
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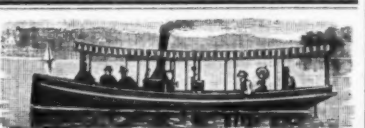
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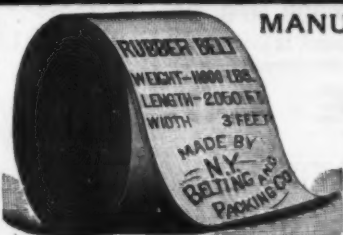
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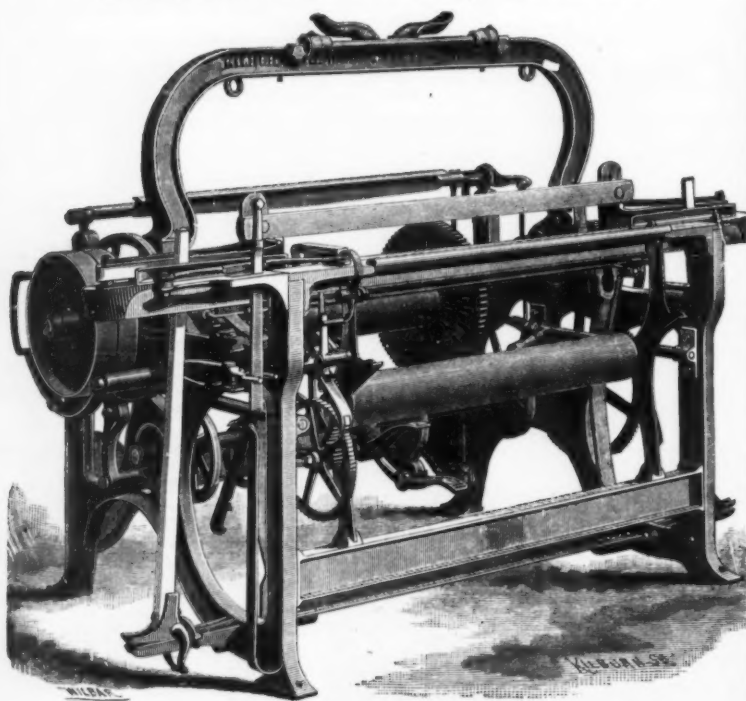
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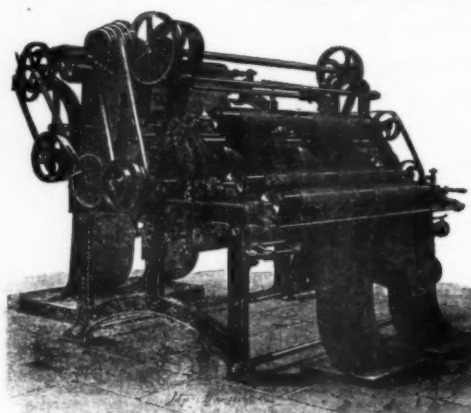


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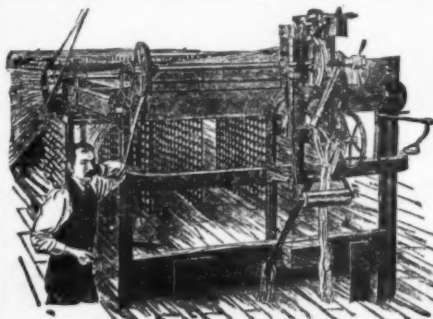
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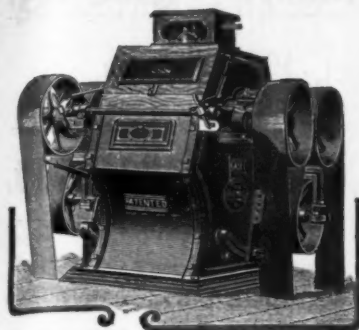
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The pump herewith illustrated is designed



GEARED THREE-CYLINDER POWER PUMP.

for use as a pressure pump for hydraulic pulp grinders, or hydraulic presses; also as a boiler feed pump, or a tank pump when water is to be forced a great height. It is an entirely new three-cylinder pump for forcing liquids, either hot or cold, against any pressure up to 150 pounds per square inch, and on account of its triple action it furnishes a practically uniform pressure at all times. It takes little space, and in appearance is neat and compact. In its construction attention has been paid to the cost of renewing parts should they become broken or worn out, and as a consequence, the frames, cylinders, valves, etc., are not all made in one casting, as many others are manufactured, necessitating the purchase of an entirely new pump at the slightest break. It is strongly geared and provided with suitable tight and loose pulleys. The pump plunges are brass and the valves are gun metal and not made cheaply of cast iron and leather. The three-throw crank is steel. As usually made, all three cylinders draw from one suction pipe and discharge through a single discharge pipe, but if so ordered, the pump may be so arranged that each cylinder will work independently in case it is desired to pump more than one kind of liquid with the same pump.

All parts are made to gauges, and can be duplicated at any time. An outside bearing is provided with each pump. Pulleys of different size can be furnished by the manufacturers when ordered.

For further information, catalogues, etc., address Rumsey & Co., Limited, Seneca Falls, N. Y.

### The Scientific Grinding Mill.

We publish a cut of the Scientific grinding mill, showing an interior view, from

which a good idea can be gained of its general construction and the manner in which the work is done—grinding all kinds of grain. The double breakers, for crushing ing ear corn, are plainly shown, as is also the crusher and conveyor on main shaft, which crushes broken pieces from the double breaker and at the same time conveys them to the grinding plates, which have a peculiar dress and are remarkable for their strength and durability, and in this respect the manufacturers claim are greatly superior to plates in any other similar mill. This arrangement of double breaker, crushing conveyor and grinding plates makes it possible for this mill to grind all kinds of grain. It was on exhibition at fairs this season, where the operator would commence by grinding shelled corn first fine enough for meal, then coarser for feed; then oats and shelled corn mixed; then oats alone; then he would throw ear corn into the hopper, and it would go through in good shape; then he would put oats and corn into mill at the same time; then sheaf oats and ear corn together; then ear corn with shucks on, and end up with grinding corn stalks, the mill easily and successfully handling all of these grains, and grinding fine or coarse as the operator desired. The cut also shows one end of the lever which holds the safety bottom in place. This device is to prevent accident in case iron or any other foreign substance should get into the mill, and, as it works automatically

without any assistance from the operator, it is entirely practical. The manufacturers of this mill claim it to be superior at every point, but there are three points covered in this article to which they would call the especial attention of interested persons:

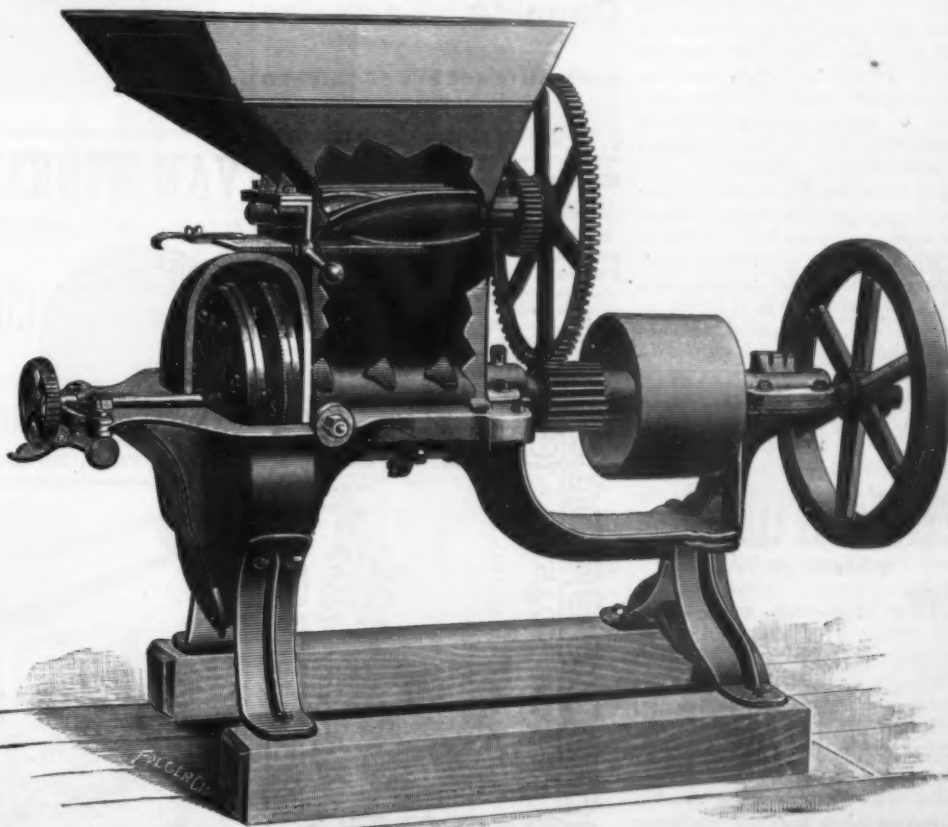
First—Durability of grinding plates. This is most important, because light, cheap grinding plates wear out rapidly, and make the expense in operating a burden to the owner.

Second—Ability to successfully grind all kinds of grain and do the work in superior manner, changing from one kind of grain to the other without any change in mill, grinding fine or coarse at will of operator.

Third—Safety devices which act automatically to prevent breakage in case iron or other foreign substances accidentally get into mill.

These are points which should receive the careful consideration of all persons who intend buying mills. The Scientific is made by the Foss Manufacturing Co., Springfield, Ohio, who will furnish a handsome 48-page illustrated catalogue free to anyone writing them.

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THE SCIENTIFIC GRINDING MILL.

## The Markets.

OFFICE MANUFACTURERS' RECORD,

BALTIMORE, December 31, 1889.

The closing week of the year has developed a number of unexpected and very interesting features in connection with iron and steel, the point most deserving of attention being the rush of inquiries for material for the next three to six months presented in nearly all of the leading markets. Two weeks ago it was thought that the holidays would pass without any important developments; but the anxiety of consumers of material was such that they have hastened to obtain, wherever possible, options for the purchase of material during January. Manufacturers, while listening to their requests, decline to yield, because of the uncertainty as to what demand may be next month, and also because of the strong upward tendency observable in every direction. Manufacturers are already sufficiently oversold, and do not care to unnecessarily load up their books with contracts which they may be obliged to fill at less than market rates. The upward tendency in Bessemer pig, steel billets and blooms, merchant bar, sheet, plate and shapes, may be still further developed. In fact, rumors were heard last week in New York and Philadelphia to the effect that all kinds of finished iron would advance one-tenth; and, judging from the extraordinary proportions of inquiry and demand, it does not seem unreasonable to believe that such will be the case. The latest telegrams and information received by mail shows that within the past week from 20,000 to 30,000 tons of steel billets have been sold at New York, Philadelphia, and one or two interior points at prices equivalent to \$38 to \$39. At Chicago heavy transactions have also been closed in Bessemer pig and Lake Superior charcoal. A booming demand is predicted in all markets for January, and there would seem to be nothing to prevent a corresponding advance in prices. The late announcement of an advance of about 40 cts. per ton on iron from Southern furnaces—to take effect January 4—will interfere somewhat with the placing of orders, but the Southern iron makers report themselves already sufficiently sold up.

There is very active inquiry for both iron and steel plates and shapes. It has been so often stated that the plate and structural iron mills were oversold, that a repetition of the statement conveys nothing new. The fact of the matter is that users of plates and shapes are crowded with necessities which they cannot well set aside. How they will secure the execution of their orders is a question which they cannot answer at present. It is this condition of things which gives rise to the rumors of an impending advance. That the iron trade can stand an advance of \$2.00 per ton on finished material is admitted, and the advancing cost of raw material renders the step quite justifiable. At the same time it is a step which makers as well as buyers would prefer should not be taken just at present.

Heavy requirements for iron castings are crowding the larger establishments of the country. In New York, Chicago and Pittsburgh a great deal of work of this character is under consideration. There is also a large amount of elevated bridge work calling for attention, and specifications for several of these enterprises will be submitted by January 15th, and from that on to the 1st of March. Beams and channels are strong at 3.10; angles 2.40; steel ship plate is selling at 2.50.

The pipe makers are in the market for large supplies. Buyers of sheet iron are soliciting information concerning the ability of manufacturers to fill orders during the winter months. Buyers of merchant

steel are rather low in stocks, and are taking quotations on winter supplies.

Last week some 40,000 tons of steel rails were contracted for, mostly in Western mills, on a basis of \$37. Eastern quotations \$35 for large lots; Pittsburgh \$37. Railroad builders will be obliged to act very soon, because of the risk they will run in allowing small buyers to hurry in orders ahead of them. Nearly all of the railroad companies will be buyers of rails for repairing purposes, and it is customary to place these orders during January and February, in order that they may be ready for early spring work. Repairing requirements will be heavy this winter, and those who have new roadbed to cover with rails will therefore be obliged to place their orders very soon. There are rumors that steel rails will reach \$40 before spring; the rumor is entitled to respect.

Advices from Cincinnati show that speculators are at work in that market, and several large pig iron sales have been made there. Chattanooga advices show an accumulation of iron there awaiting cars. One of the most interesting statements recently made from the South is to the effect that foreign buyers are asking quotations on pig iron at exporting points. It would certainly be surprising if American iron should be exported in large quantities, but comparing foreign quotations with American, it does not seem an improbable thing.

At New York the greatest interest is felt in the future course of prices; buyers of billets are anxiously awaiting the acceptance of orders which they have presented. One company has just ordered 8,500 tons of castings for a local enterprise.

Chicago markets are very active, particularly for material entering into machinery for agricultural uses. St. Louis markets are very active for crude iron. The barbed wire mills are all busy.

"54° 40' or fight." See "War" Robertson's adv. in this paper. †

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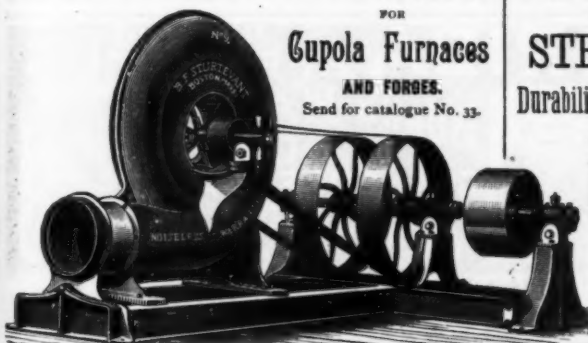
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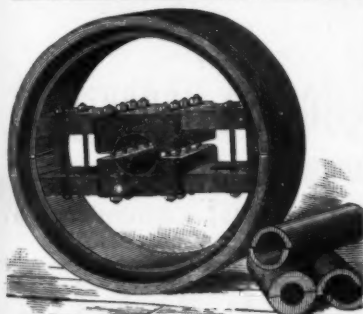
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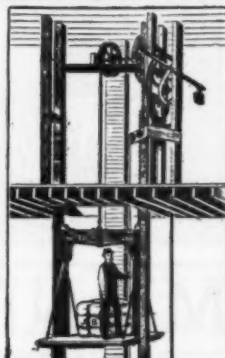
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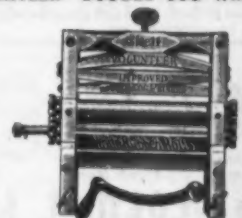
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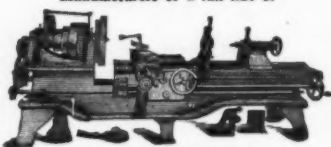
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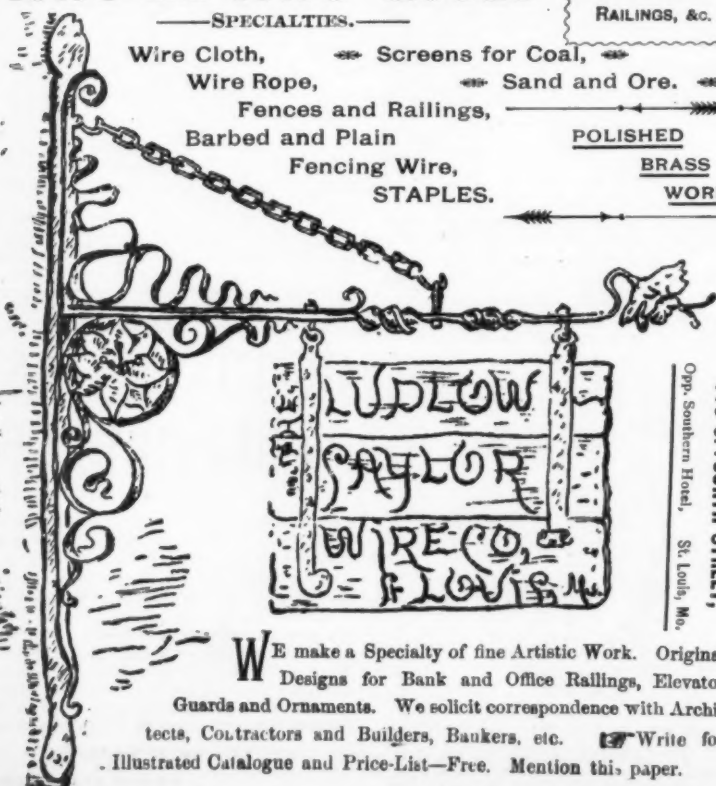


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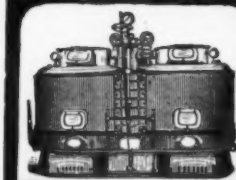
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## Eastern Lumber Markets.

[Spec. correspond. MANUFACTURERS' RECORD.]  
NEW YORK, December 31, 1889.

The open winter has had an unexpected and very gratifying effect upon the lumber trade in this city. Builders are already making preparations for extensive operations next year. Among the new buildings now under way are the Music Hall, at 57th street and 7th avenue, which will cost \$1,000,000. A fine building, recently completed, is Lenox Lyceum. The Republican Club will erect a very costly building in a short time. The Manhattan Club will put up at 45th street and Madison avenue one of the finest structures ever erected in this city. The German Society will put up a splendid building at 59 street and the Park. Down town a great deal of office building is projected; thousands of buildings now occupied for office purposes are mere fire nests, and the occupants will be glad of an opportunity to remove to better quarters. When the engineers succeed in solving some of the problems which have been harassing them in reference to better systems of rapid transit, a difference will be observed in the nature of the building operations in this city, especially the lower section. As it is, the people cannot get in and out of town fast enough, and we must have either more elevated roads or else tunnels for underground transit. The city is bulging out at the upper end, and what the limits of its growth are no one can tell. The Brooklyn Bridge last year accommodated 32,000,000 passengers, and additional subways and approaches are to be established as soon as possible to meet the increased demands.

A new ship line is about being established between this city and Venezuela; our commercial interests are looking forward to a good deal of commerce with Central and South America. The recent visit of the "Pan-Americans" has awakened deep interest in this subject.

Facts like the above may not be considered as having a direct bearing upon the lumber market, but they should be known and considered, as they have a direct influence upon the future probable demand for lumber in this city.

Our future dependence will be mainly on Southern lumber. The white pine men are fearful of this, and are endeavoring by every means in their power to at least hold all of the trade they have. Their business instincts are aroused, and they are making headway which our Southern friends should carefully note. Additional yards are to be established here and in New England; the requirements of this market are to be more carefully studied, and prices put down to the lowest possible limits. The efforts of the best salesmen will be added to the enterprise of manufacturers, and all markets will be canvassed thoroughly. Credit will be allowed where wanted. In fact, nothing will be left undone by the white pine interests to protect their market, and if possible increase their traffic.

It is only necessary to let the Southern lumber interests know of these facts. They are quick to perceive and quick to act. Yellow pine, North Carolina pine and Southern hardwoods generally have been selling upon their merits. They are taken because they are wanted. The time may come when it will be necessary to add selling ability, and the contest between Southern and other lumber may grow close and sharp.

Our receipts of yellow pine have been large all through the summer and fall, and we learn from private sources that a large amount of stuff is yet due. Nearly all of it will come into retailers and consumers' hands. All users of yellow pine have confidence and carry large stocks. We have gotten over the idea that lumber will decline in price. Notwithstanding the rapid growth of saw mills and saw mill

capacity, we are assured that the extent of the demand for the output of the Southern mills will keep prices firm and compel buyers to anticipate their requirements right straight along.

It is impossible to give any new points in regard to North Carolina lumber. Stocks of both rough and dressed are light. The car trade is improving.

A few parties who have been holding plain oak for some weeks, have concluded to turn it into cash, and in order to do so, have been obliged to yield a point or two. Quartered oak is strong, and the supply, while sufficient, is not large enough to affect prices unfavorably.

A great deal of poplar is arriving by car, and some large transactions have just been closed. Sales of poplar in this market are on the increase.

The walnut trade is dull at present. The demand for ash is irregular, some few concerns reporting a good trade, and others next to nothing. The few houses handling mahogany inform us that they have made preparations to receive heavy stocks for the coming season. Mahogany, notwithstanding its high price, is regaining its old-time popularity. The finer class of buildings going up call for the best qualities of the best lumber, and when it comes to interior finishings, the question of economy is not taken into consideration.

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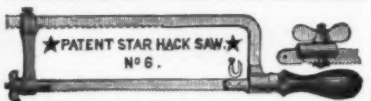
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Inches long.....6 7 8 9 10 11 12

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Office and Factory, Fort Plain, New York.



[SECTION OF PLANT OF FIFTY FIRES PUT IN FOR THE LAMSON & SESSIONS CO., CLEVELAND, OHIO.]

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In fact it can be applied to any purpose where heat is required, obtained from coal or gas. We save in fuel, labor, time, quality of work, health of operatives, cleanliness; also in the durability of belting, which is rapidly destroyed by the fumes of gas produced by anthracite coal.

We have at this office a number of testimonials from large concerns, setting forth the merits as claimed, which are open to inspection, or a circular will be furnished on application. For further information apply at the offices of the company, Ft. Plain, N.Y.

**THE SYSTEM** adopted by this company for the use of Crude Petroleum as fuel is both simple, economical and effective. Perfect combustion, uniform heat, regulated as easily as an ordinary lamp. Although comparatively new, being only introduced in April of this year, the number of fires using it AMOUNT TO NEAR ONE THOUSAND, WHICH IS PROBABLY MORE THAN ALL THE OTHER DEVICES FOR THIS PURPOSE COMBINED.

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OFFICE OF LAKE ERIE IRON CO.,  
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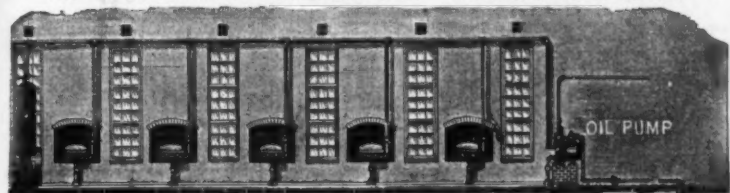
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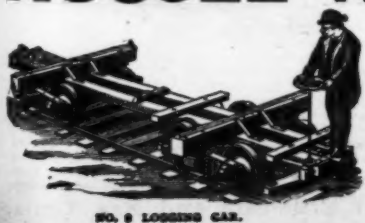
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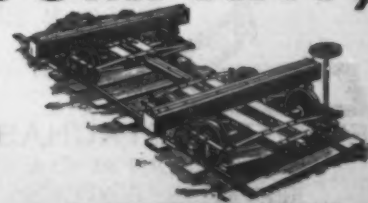
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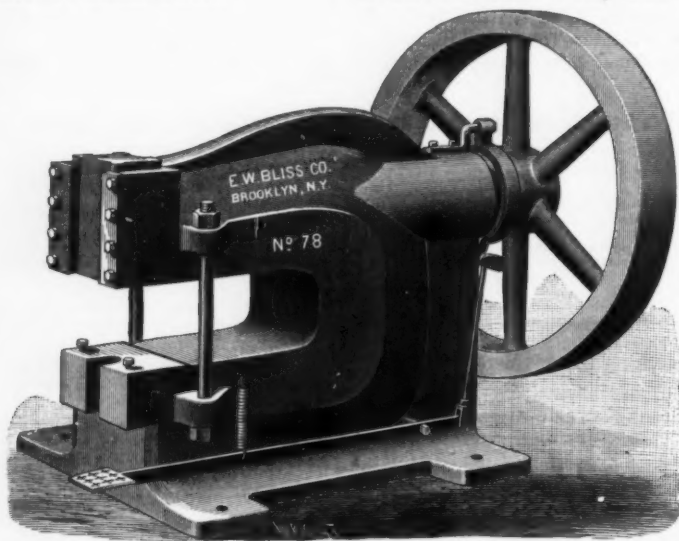
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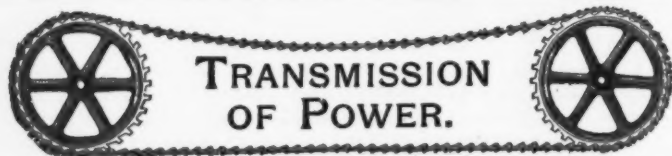
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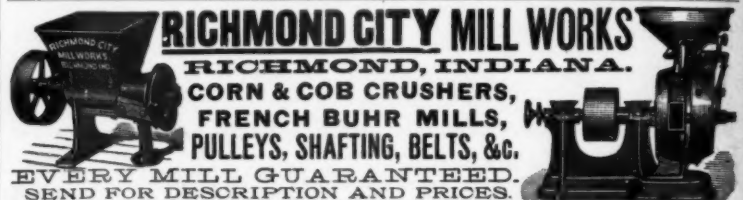
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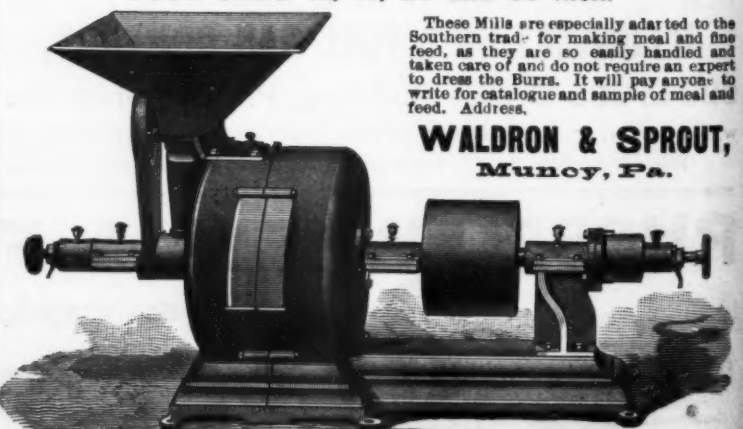
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# Alphabetical Index of Advertisers.

[For "Classified Index," see page 3.]

|                                                              |                                           |                                                          |                                          |
|--------------------------------------------------------------|-------------------------------------------|----------------------------------------------------------|------------------------------------------|
| <b>A</b>                                                     | <b>C</b>                                  | <b>G</b>                                                 | <b>I</b>                                 |
| Abbott, D. S. .... 62                                        | Caldwell, H. W. .... 42                   | Gambrell, C. A., Mfg. Co. .... 64                        | Illinistat & Fuel Gas Co. .... 63        |
| Abendroth & Root Mfg. Co. .... 4                             | Callahan, W. P. & Co. .... 42             | Gandy Belting Co. .... 58                                | Indiana Machine Works. .... 63           |
| Adams, S., & Sons. .... 27                                   | Calumet Cotton Factory. .... 38           | Garvin Machine Co. .... 68                               | Ingersoll-Sergeant Rock Drill Co. .... 3 |
| Addyston Pipe & Steel Co. .... 67                            | Cambridge Roofing Co. .... 61             | Gates Iron Works. .... 68                                |                                          |
| Asarsted Fuel Co. .... 65                                    | Camden, S. C. .... 13                     | Gerlach, Peter & Co. .... 34                             |                                          |
| Akron Belting Co. .... 65                                    | Cameron, A. S., Steam Pump Wks. .... 67   | Gilpin, B. .... 40                                       |                                          |
| Allen, Edw. .... 59                                          | Campbell & Zell Co. .... 37               | Glen Cove Machine Co. (Lim.) .... 67                     |                                          |
| American Development Co. .... 33                             | Canning, Reginald & Co. .... 40           | Globe Iron Roof & Corrugat. Co. .... 67                  |                                          |
| "American Economist". .... 48                                | Canton Steel Roofing Co. .... 61          | Globe Machine Works. .... 69                             |                                          |
| American Machine Co. .... 41                                 | Carey, Thos. K., & Bros. .... 21          | Godfrey & Co., L. .... 40                                |                                          |
| American Supply Co. .... 35                                  | Carlisle Mfg. Co. .... 65                 | Goodell & Waters. .... 35                                |                                          |
| Andrew, Thomas J. .... 46                                    | Carter, Jno. S. .... 54                   | Gordon Steam Pump Co. .... 48                            |                                          |
| Aniston, Ala. .... *                                         | Case Mfg. Co. .... 57                     | Gordon, Strobel & Laurean (Lim.) .... 47                 |                                          |
| Arctic Ice Machine Mfg. Co. .... *                           | Casey Boiler Mfg. Co. .... 40             | Graham, J. S., & Co. .... 46                             |                                          |
| Arnold, D. J. C. .... 45                                     | Cassell & Co. .... 39                     | Goodhart, P. J., & Co. .... 33                           |                                          |
| Atlantic Works. .... 29                                      | Castle Engine Works. .... *               | Greene & Wood Mfg. Co. .... 36                           |                                          |
| Ault & Wiborg. .... 48                                       | Cattell, Chas. .... 56                    | Griffing Iron Co., A. A. .... *                          |                                          |
| Austin, F. C., Mfg. Co. .... 67                              | C. H. & D. R. R. .... *                   |                                                          |                                          |
|                                                              | Chambers Brothers Co. .... 45             | <b>H</b>                                                 |                                          |
|                                                              | Chandler & Taylor. .... 38                | Haines, Jones & Cadbury Co. .... 60                      |                                          |
| <b>B</b>                                                     | Charlottesville, Va. .... 13              | Harrison & Murray. .... 66                               |                                          |
| Babcock & Wilcox Co. .... 29                                 | Chattanooga Fdry. & Pipe Wks. .... 67     | Harrington, E., Son & Co. .... 60                        |                                          |
| Baldwin Locomotive Works. .... 52                            | Chattanooga Saw Works. .... *             | Harrison & King Perforat. Co. .... 62                    |                                          |
| Ball Engine Co. .... 28                                      | Chattanooga Paint Co. .... *              | Harris, Wm. A., Steam Eng. Co. .... 38                   |                                          |
| Baltimore Stor. & Light. Co. .... 48                         | Chattanooga Wood Split Pulley Co. .... 59 | Harrison Safety Boiler Works. .... 48                    |                                          |
| Barnes, W. F. & John. Co. .... 61                            | Chesapeake Belting Co. .... 59            | Hartford Steam Boiler Inspection & Insurance Co. .... 48 |                                          |
| Berry, W. B., Saw & Supply Co. .... 68                       | Chester Steel Castings Co. .... 53        | Hayden, Joel, & Co. .... 33                              |                                          |
| Bates, Jas. .... 59                                          | Child, O. W., & Co. .... 40               | Heap, Chas. .... 38                                      |                                          |
| Bay Line. .... 37                                            | Cincinnati Corrugating Co. .... 61        | Hercules Iron Works. .... 37                             |                                          |
| Beach, H. L. .... *                                          | Clark, Geo. P. .... 38                    | Heiser Electric Light Co. .... 38                        |                                          |
| Beckett Foundry & Machine Co. .... 28                        | Clark, Jeremiah. .... 58                  | Hewes & Phillips Iron Works. .... 39                     |                                          |
| Bell, David. .... *                                          | Cleveland & Hardwick. .... 39             | Hill Clutch Works. .... 47                               |                                          |
| Belden Machine Co. .... 54                                   | Cleveland Twist Drill Co. .... 3          | Holmes, E. & B. .... 36                                  |                                          |
| Bentel & Margedant Co., The. .... 24                         | Coburn Shuttle Co. .... 56                | Holton Iron Roofing Co. .... 61                          |                                          |
| Berger Mfg. Co. .... 51                                      | Coe & Wilkes. .... 46                     | Hoopes & Townsend. .... 31                               |                                          |
| Bessmer. .... 38                                             | Collihan, Victor. .... 46                 | Hopkins Mfg. Co. .... *                                  |                                          |
| Bickford Drill Co. .... 54                                   | Cole, W. H. .... 37                       | Houston, Levi. .... 43                                   |                                          |
| Billings & Spencer Co. .... 53                               | Commonwealth Construction Co. .... 41     | Howcott, W. H. .... 43                                   |                                          |
| Birdall Co. .... 26                                          | Consolidated Ice Machine Co. .... 47      | Hubbard & Co. .... 46                                    |                                          |
| Blake Mfg. Co., The Geo. F. .... 66                          | Contractors' Plant Mfg. Co. .... *        | Hughes Steam Pump Co. .... 46                            |                                          |
| Blakeslee Mfg. Co. .... 66                                   | Copeland & Bacon. .... 43                 | Humphreys & Sayce. .... 46                               |                                          |
| Blas, E. Co. .... 64                                         | Cordeman, Meyer & Co. .... 37             | Hunting, E. B., & Co. .... 62                            |                                          |
| Bluffton, Ala. .... 17                                       | Corey Car & Mfg. Co. .... 39              | Huntington, Ark. .... 39                                 |                                          |
| Boggs & Clarke. .... *                                       | Covert Mfg. Co. .... 39                   | Hunt, Rodney, Machine Co. .... 31                        |                                          |
| Bone, Hugh. .... 38                                          | Crompton Loom Works. .... 56              | Hyndman, W. S., & Co. .... 60                            |                                          |
| Bookkeepers. .... 38                                         |                                           |                                                          |                                          |
| Boomer & Boschert Press Co., The. .... 37                    |                                           |                                                          |                                          |
| Boyle, David. .... *                                         |                                           |                                                          |                                          |
| Bradley & Co. .... 52                                        |                                           |                                                          |                                          |
| Bradstreet Co. .... 48                                       |                                           |                                                          |                                          |
| Bray & Nickerson Auto. Gage Glass Co. .... 54                |                                           |                                                          |                                          |
| Brown, Alex., & Sons. .... 33                                |                                           |                                                          |                                          |
| Brown Electric Co. .... *                                    |                                           |                                                          |                                          |
| Buckeye Engine Co. .... *                                    |                                           |                                                          |                                          |
| Bucyrus Fdry. & Mfg. Co. .... *                              |                                           |                                                          |                                          |
| Budden & Son. .... 48                                        |                                           |                                                          |                                          |
| Buffalo Forge Co. .... 68                                    |                                           |                                                          |                                          |
| Buffalo Steam Pump Co. .... 66                               |                                           |                                                          |                                          |
| Bullock, M. C., Mfg. Co. .... 43                             |                                           |                                                          |                                          |
| Bundy Mfg. Co. .... 59                                       |                                           |                                                          |                                          |
| Butterworth, H. W. & Sons. .... 56                           |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>C</b>                                                     |                                           |                                                          |                                          |
| Caldwell, H. W. .... 42                                      |                                           |                                                          |                                          |
| Callahan, W. P. & Co. .... 42                                |                                           |                                                          |                                          |
| Calumet Cotton Factory. .... 38                              |                                           |                                                          |                                          |
| Cambridge Roofing Co. .... 61                                |                                           |                                                          |                                          |
| Camden, S. C. .... 13                                        |                                           |                                                          |                                          |
| Cameron, A. S., Steam Pump Wks. .... 67                      |                                           |                                                          |                                          |
| Campbell & Zell Co. .... 37                                  |                                           |                                                          |                                          |
| Canning, Reginald & Co. .... 40                              |                                           |                                                          |                                          |
| Canton Steel Roofing Co. .... 61                             |                                           |                                                          |                                          |
| Carey, Thos. K., & Bros. .... 21                             |                                           |                                                          |                                          |
| Carlisle Mfg. Co. .... 65                                    |                                           |                                                          |                                          |
| Carter, Jno. S. .... 54                                      |                                           |                                                          |                                          |
| Case Mfg. Co. .... 57                                        |                                           |                                                          |                                          |
| Casey Boiler Mfg. Co. .... 40                                |                                           |                                                          |                                          |
| Cassell & Co. .... 39                                        |                                           |                                                          |                                          |
| Castle Engine Works. .... *                                  |                                           |                                                          |                                          |
| Cattell, Chas. .... 56                                       |                                           |                                                          |                                          |
| C. H. & D. R. R. .... *                                      |                                           |                                                          |                                          |
| Chambers Brothers Co. .... 45                                |                                           |                                                          |                                          |
| Chandler & Taylor. .... 38                                   |                                           |                                                          |                                          |
| Charlottesville, Va. .... 13                                 |                                           |                                                          |                                          |
| Chattanooga Fdry. & Pipe Wks. .... 67                        |                                           |                                                          |                                          |
| Chattanooga Saw Works. .... *                                |                                           |                                                          |                                          |
| Chattanooga Paint Co. .... *                                 |                                           |                                                          |                                          |
| Chattanooga Wood Split Pulley Co. .... 59                    |                                           |                                                          |                                          |
| Chesapeake Belting Co. .... 59                               |                                           |                                                          |                                          |
| Chester Steel Castings Co. .... 53                           |                                           |                                                          |                                          |
| Child, O. W., & Co. .... 40                                  |                                           |                                                          |                                          |
| Cincinnati Corrugating Co. .... 61                           |                                           |                                                          |                                          |
| Clark, Geo. P. .... 38                                       |                                           |                                                          |                                          |
| Clark, Jeremiah. .... 58                                     |                                           |                                                          |                                          |
| Cleveland & Hardwick. .... 39                                |                                           |                                                          |                                          |
| Cleveland Twist Drill Co. .... 3                             |                                           |                                                          |                                          |
| Coburn Shuttle Co. .... 56                                   |                                           |                                                          |                                          |
| Coe & Wilkes. .... 46                                        |                                           |                                                          |                                          |
| Collihan, Victor. .... 46                                    |                                           |                                                          |                                          |
| Cole, W. H. .... 37                                          |                                           |                                                          |                                          |
| Commonwealth Construction Co. .... 41                        |                                           |                                                          |                                          |
| Consolidated Ice Machine Co. .... 47                         |                                           |                                                          |                                          |
| Contractors' Plant Mfg. Co. .... *                           |                                           |                                                          |                                          |
| Copeland & Bacon. .... 43                                    |                                           |                                                          |                                          |
| Cordeman, Meyer & Co. .... 37                                |                                           |                                                          |                                          |
| Corey Car & Mfg. Co. .... 39                                 |                                           |                                                          |                                          |
| Covert Mfg. Co. .... 39                                      |                                           |                                                          |                                          |
| Crompton Loom Works. .... 56                                 |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>D</b>                                                     |                                           |                                                          |                                          |
| Daft Electric Light Co. .... 39                              |                                           |                                                          |                                          |
| Danner, A. C. .... 68                                        |                                           |                                                          |                                          |
| Davidson Steam Pump Co. .... *                               |                                           |                                                          |                                          |
| Dean Bros. Steam Pump Works. .... 66                         |                                           |                                                          |                                          |
| Deane Steam Pump Co. .... 4                                  |                                           |                                                          |                                          |
| Defiance Machine Works. .... 34                              |                                           |                                                          |                                          |
| Defiance Oil Fuel Burner & Forge Co. .... 63                 |                                           |                                                          |                                          |
| De Loach Mill Mfg. Co. .... 24                               |                                           |                                                          |                                          |
| Denison, Texas. .... 15                                      |                                           |                                                          |                                          |
| Derby & Kilmer Desk Co. .... 32                              |                                           |                                                          |                                          |
| Detrick & Harvey. .... 39                                    |                                           |                                                          |                                          |
| Detroit Saw Works, The. .... 24                              |                                           |                                                          |                                          |
| Devlin & Co. .... 27                                         |                                           |                                                          |                                          |
| Diamond Prospecting Co. .... 43                              |                                           |                                                          |                                          |
| Dietz, Bernhard. .... 54                                     |                                           |                                                          |                                          |
| Dirigo Engine & Machine Co. .... *                           |                                           |                                                          |                                          |
| Diaston, Henry, & Sons. .... 42                              |                                           |                                                          |                                          |
| Dixon, Jos., Crucible Co. .... 58                            |                                           |                                                          |                                          |
| Dolph, A. M., Co. .... 41                                    |                                           |                                                          |                                          |
| Draper, Geo., & Sons. .... 4                                 |                                           |                                                          |                                          |
| Druid Felt Co. .... 61                                       |                                           |                                                          |                                          |
| Dufur & Co. .... 50                                          |                                           |                                                          |                                          |
| Du Quoin Iron Works. .... 26                                 |                                           |                                                          |                                          |
| Dyott & Co. .... 52                                          |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>E</b>                                                     |                                           |                                                          |                                          |
| Eagle Iron Works. .... 54                                    |                                           |                                                          |                                          |
| Earle, T. K., Mfg. Co. .... 65                               |                                           |                                                          |                                          |
| Easton & Barnham. .... *                                     |                                           |                                                          |                                          |
| Eastwood & Co. .... 61                                       |                                           |                                                          |                                          |
| Eclipse Wind Engine Co. .... 47                              |                                           |                                                          |                                          |
| Eddy, Chas. G. .... 39                                       |                                           |                                                          |                                          |
| Edmonds, Elias. .... 40                                      |                                           |                                                          |                                          |
| Egan Co., The. .... 25                                       |                                           |                                                          |                                          |
| Ely & Deming. .... 40                                        |                                           |                                                          |                                          |
| Empire Paint & Roofing Co. .... *                            |                                           |                                                          |                                          |
| Empire Portable Forge Co. .... 59                            |                                           |                                                          |                                          |
| Empire Wringing Co. .... 59                                  |                                           |                                                          |                                          |
| Estep, F. A. & Co. .... 40                                   |                                           |                                                          |                                          |
| E. T. V. & G. Ry. .... *                                     |                                           |                                                          |                                          |
| Eureka Brick Mch. Mfg. Co. .... *                            |                                           |                                                          |                                          |
| Evans Friction Cone Co. .... 47                              |                                           |                                                          |                                          |
| Evans, G. W., Pres. .... *                                   |                                           |                                                          |                                          |
| Evans, Terry, Clausen Brok. Co. .... 38                      |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>F</b>                                                     |                                           |                                                          |                                          |
| Fall River Spool & Bobbin Co. .... 56                        |                                           |                                                          |                                          |
| Fay, J. A., & Co. .... 24                                    |                                           |                                                          |                                          |
| Felthousen & Sherwood. .... 29                               |                                           |                                                          |                                          |
| Fisher, E. W. .... 46                                        |                                           |                                                          |                                          |
| Fishkill Landing Machine Co. .... *                          |                                           |                                                          |                                          |
| "F. L. T.". .... *                                           |                                           |                                                          |                                          |
| Fletcher & Thomas. .... 44                                   |                                           |                                                          |                                          |
| Florence, Ala. .... 18                                       |                                           |                                                          |                                          |
| Foos Mfg. Co. .... 64                                        |                                           |                                                          |                                          |
| Forsyth, S. C., Machine Co. .... 53                          |                                           |                                                          |                                          |
| Fort Payne, Ala. .... 16                                     |                                           |                                                          |                                          |
| Fort Worth Loan & Construct. Co. .... 37                     |                                           |                                                          |                                          |
| Foundry & Machine Department Harrisburg Car Mfg. Co. .... 29 |                                           |                                                          |                                          |
| Frick Co. .... 28                                            |                                           |                                                          |                                          |
| Fritz, Geo. J. .... 43                                       |                                           |                                                          |                                          |
| Fulton Iron & Engine Works. .... 68                          |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>G</b>                                                     |                                           |                                                          |                                          |
| Gambrell, C. A., Mfg. Co. .... 64                            |                                           |                                                          |                                          |
| Gandy Belting Co. .... 58                                    |                                           |                                                          |                                          |
| Garvin Machine Co. .... 68                                   |                                           |                                                          |                                          |
| Gates Iron Works. .... 68                                    |                                           |                                                          |                                          |
| Gerlach, Peter & Co. .... 34                                 |                                           |                                                          |                                          |
| Gilpin, B. .... 40                                           |                                           |                                                          |                                          |
| Glamorgan Co., The. .... 67                                  |                                           |                                                          |                                          |
| Glen Cove Machine Co. (Lim.) .... 67                         |                                           |                                                          |                                          |
| Globe Iron Roof & Corrugat. Co. .... 67                      |                                           |                                                          |                                          |
| Globe Machine Works. .... 69                                 |                                           |                                                          |                                          |
| Godfrey & Co., L. .... 40                                    |                                           |                                                          |                                          |
| Goodell & Waters. .... 35                                    |                                           |                                                          |                                          |
| Gordon Steam Pump Co. .... 48                                |                                           |                                                          |                                          |
| Gordon, Strobel & Laurean (Lim.) .... 47                     |                                           |                                                          |                                          |
| Graham, J. S., & Co. .... 46                                 |                                           |                                                          |                                          |
| Goodhart, P. J., & Co. .... 33                               |                                           |                                                          |                                          |
| Greene & Wood Mfg. Co. .... 36                               |                                           |                                                          |                                          |
| Griffing Iron Co., A. A. .... *                              |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>H</b>                                                     |                                           |                                                          |                                          |
| Haines, Jones & Cadbury Co. .... 60                          |                                           |                                                          |                                          |
| Harrison & Murray. .... 66                                   |                                           |                                                          |                                          |
| Harrington, E., Son & Co. .... 60                            |                                           |                                                          |                                          |
| Harrison & King Perforat. Co. .... 62                        |                                           |                                                          |                                          |
| Harris, Wm. A., Steam Eng. Co. .... 38                       |                                           |                                                          |                                          |
| Harrison Safety Boiler Works. .... 48                        |                                           |                                                          |                                          |
| Hartford Steam Boiler Inspection & Insurance Co. .... 48     |                                           |                                                          |                                          |
| Hayden, Joel, & Co. .... 33                                  |                                           |                                                          |                                          |
| Heap, Chas. .... 38                                          |                                           |                                                          |                                          |
| Hercules Iron Works. .... 37                                 |                                           |                                                          |                                          |
| Heiser Electric Light Co. .... 38                            |                                           |                                                          |                                          |
| Hewes & Phillips Iron Works. .... 39                         |                                           |                                                          |                                          |
| Hill Clutch Works. .... 47                                   |                                           |                                                          |                                          |
| Holmes, E. & B. .... 36                                      |                                           |                                                          |                                          |
| Holton Iron Roofing Co. .... 61                              |                                           |                                                          |                                          |
| Hoopes & Townsend. .... 31                                   |                                           |                                                          |                                          |
| Hopkins Mfg. Co. .... *                                      |                                           |                                                          |                                          |
| Houston, Levi. .... 43                                       |                                           |                                                          |                                          |
| Howcott, W. H. .... 43                                       |                                           |                                                          |                                          |
| Hubbard & Co. .... 46                                        |                                           |                                                          |                                          |
| Hughes Steam Pump Co. .... 46                                |                                           |                                                          |                                          |
| Humphreys & Sayce. .... 46                                   |                                           |                                                          |                                          |
| Hunting, E. B., & Co. .... 62                                |                                           |                                                          |                                          |
| Huntington, Ark. .... 39                                     |                                           |                                                          |                                          |
| Hunt, Rodney, Machine Co. .... 31                            |                                           |                                                          |                                          |
| Hyndman, W. S., & Co. .... 60                                |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>I</b>                                                     |                                           |                                                          |                                          |
| Illinistat & Fuel Gas Co. .... 63                            |                                           |                                                          |                                          |
| Indiana Machine Works. .... 63                               |                                           |                                                          |                                          |
| Ingersoll-Sergeant Rock Drill Co. .... 3                     |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>J</b>                                                     |                                           |                                                          |                                          |
| Jarvis Engineering Co. .... 39                               |                                           |                                                          |                                          |
| "J. B. B.". .... 38                                          |                                           |                                                          |                                          |
| Jeffrey Mfg. Co. .... 39                                     |                                           |                                                          |                                          |
| Jenkins Bros. .... 56                                        |                                           |                                                          |                                          |
| Johnson, R. M. .... 54                                       |                                           |                                                          |                                          |
| Johnson, Shryock & Co. .... 56                               |                                           |                                                          |                                          |
| Joyce, Cridland & Co. .... 62                                |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>K</b>                                                     |                                           |                                                          |                                          |
| Kaestner & Co., Chas. .... 45                                |                                           |                                                          |                                          |
| Kanneberg Roofing Co. .... 61                                |                                           |                                                          |                                          |
| Keegan & Halpin. .... 3                                      |                                           |                                                          |                                          |
| Kelly, J. V. .... 62                                         |                                           |                                                          |                                          |
| Kidder, Peabody & Co. .... 32                                |                                           |                                                          |                                          |
| Kilburn, Lincoln & Co. .... 36                               |                                           |                                                          |                                          |
| Kilbourne & Jacobs Mfg. Co. .... 56                          |                                           |                                                          |                                          |
| Knoxville Car Wheel Co. .... 52                              |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>L</b>                                                     |                                           |                                                          |                                          |
| Ladd, Alfred W. .... 40                                      |                                           |                                                          |                                          |
| Laidlaw & Dunn Co. .... 47                                   |                                           |                                                          |                                          |
| Lancaster Turbine Wheel Co. .... 46                          |                                           |                                                          |                                          |
| Landis, Ezra F. .... 46                                      |                                           |                                                          |                                          |
| Lathe & Morse Tool Co. .... 37                               |                                           |                                                          |                                          |
| Lehman-Evans Machine Co. .... 33                             |                                           |                                                          |                                          |
| Liberly, J. .... 14                                          |                                           |                                                          |                                          |
| Lidgerwood Mfg. Co. .... 39                                  |                                           |                                                          |                                          |
| Ligovsky Clay Pigeon Co. .... 65                             |                                           |                                                          |                                          |
| Lincoln Iron Works. .... 68                                  |                                           |                                                          |                                          |
| Link Belt Engineering Co. .... 64                            |                                           |                                                          |                                          |
| Lodge & Davis Mach. Tool Co. .... 40                         |                                           |                                                          |                                          |
| Long & Ailattier Co. .... 64                                 |                                           |                                                          |                                          |
| Louisiana Electric Lighting Co. .... 47                      |                                           |                                                          |                                          |
| Louisville Mch. & Ely. Wks. .... 47                          |                                           |                                                          |                                          |
| Low & Tucker. .... 40                                        |                                           |                                                          |                                          |
| Lowell Steam Boiler Works. .... 40                           |                                           |                                                          |                                          |
| Ludlow Saylor Wire Co. .... 60                               |                                           |                                                          |                                          |
| Ludlow Valve Mfg. Co. .... 30                                |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>M</b>                                                     |                                           |                                                          |                                          |
| Magnolia Anti-Friction Metal Co. .... 33                     |                                           |                                                          |                                          |
| Makepeace, C. R., & Co. .... 37                              |                                           |                                                          |                                          |
| Males, A. S., & Co. .... 37                                  |                                           |                                                          |                                          |
| Marion, N. C. .... 40                                        |                                           |                                                          |                                          |
| Martin, Henry, Brick Mch. Mfg. Co. .... 49                   |                                           |                                                          |                                          |
| Marlin, Jno. & Son. .... 68                                  |                                           |                                                          |                                          |
| Mason Regulator Co. .... 58                                  |                                           |                                                          |                                          |
| McGowan, The Jno. H. Co. .... 66                             |                                           |                                                          |                                          |
| McLanahan & Stone. .... 44                                   |                                           |                                                          |                                          |
| McNell, G. & Co. .... 65                                     |                                           |                                                          |                                          |
| McShane, H., & Co. .... 54                                   |                                           |                                                          |                                          |
| Merchant & Co. .... 32                                       |                                           |                                                          |                                          |
| Merchants & Farmers' Bank. .... 32                           |                                           |                                                          |                                          |
| Meyer, V. A., & Co. .... 38                                  |                                           |                                                          |                                          |
| Meyers, F. A., Mfg. Co. .... 60                              |                                           |                                                          |                                          |
| Middendorf, Oliver & Co. .... 33                             |                                           |                                                          |                                          |
| Midway, Ky. .... 12                                          |                                           |                                                          |                                          |
| Millburn Gl. & Machine Co. .... 3                            |                                           |                                                          |                                          |
| Miller, Blanton & Oates. .... 3                              |                                           |                                                          |                                          |
| Miller & Bierce. .... 62                                     |                                           |                                                          |                                          |
| Millers Falls Co. .... 62                                    |                                           |                                                          |                                          |
| Miner & Kettig. .... 62                                      |                                           |                                                          |                                          |
| Mineral & Timber Land Co. .... 68                            |                                           |                                                          |                                          |
| Minnigerode, Wm. .... 40                                     |                                           |                                                          |                                          |
| Moon, J. L. .... 48                                          |                                           |                                                          |                                          |
| Moore, F. H. .... 43                                         |                                           |                                                          |                                          |
| Moore, C. W., The. .... 47                                   |                                           |                                                          |                                          |
| New Dory Mfg. Co. .... 46                                    |                                           |                                                          |                                          |
| Morris Machine Works. .... 46                                |                                           |                                                          |                                          |
| Morrison, Robert. .... 19                                    |                                           |                                                          |                                          |
| Morristown, Tenn. .... 19                                    |                                           |                                                          |                                          |
| Morse, Williams & Co. .... 3                                 |                                           |                                                          |                                          |
| Munroe, R. & Son. .... 65                                    |                                           |                                                          |                                          |
| Munson & Bro. .... 13                                        |                                           |                                                          |                                          |
| Murray, Jas., & Son. .... 43                                 |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>N</b>                                                     |                                           |                                                          |                                          |
| National Pulley Covering Co. .... 39                         |                                           |                                                          |                                          |
| National Telephone Mfg. Co. .... 11                          |                                           |                                                          |                                          |
| N. C. Steel & Iron Co. .... 11                               |                                           |                                                          |                                          |
| New Decatur, Ala. .... 20                                    |                                           |                                                          |                                          |
| New Dory Mfg. Co. .... 46                                    |                                           |                                                          |                                          |
| New York Belting & Packing Co. .... 40                       |                                           |                                                          |                                          |
| New York Equipment Co. .... 40                               |                                           |                                                          |                                          |
| New York Machinery Depot. .... 62                            |                                           |                                                          |                                          |
| "Niagara" Hotel. .... 64                                     |                                           |                                                          |                                          |
| Niagara Stamping & Tool Co. .... 64                          |                                           |                                                          |                                          |
| Nicholson File Co. .... 68                                   |                                           |                                                          |                                          |
| Niles Tool Works. .... 53                                    |                                           |                                                          |                                          |
| Nordyke & Marmon Co. .... 3                                  |                                           |                                                          |                                          |
| North American Machine Co. .... 29                           |                                           |                                                          |                                          |
| North American Review. .... 42                               |                                           |                                                          |                                          |
| Northampton Emery Wheel Co. .... 61                          |                                           |                                                          |                                          |
| Norton Emery Wheel Co. .... 61                               |                                           |                                                          |                                          |
| Noye, John T. Mfg. Co. .... 26                               |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |
| <b>O</b>                                                     |                                           |                                                          |                                          |
| Obermayer, S., Fdy. Sup. Mfg. Co. .... 39                    |                                           |                                                          |                                          |
| Okonite Co. .... 38                                          |                                           |                                                          |                                          |
| Oke Gas Engine Works. .... 4                                 |                                           |                                                          |                                          |
| Oley, Peter J. .... 38                                       |                                           |                                                          |                                          |
| Olsford, N. C. .... *                                        |                                           |                                                          |                                          |
|                                                              |                                           |                                                          |                                          |



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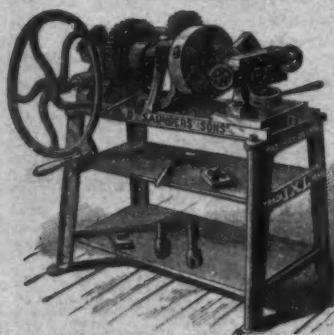
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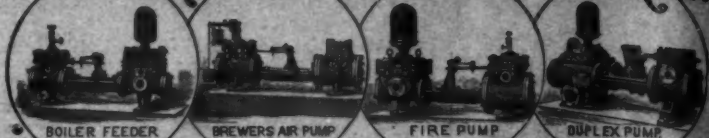
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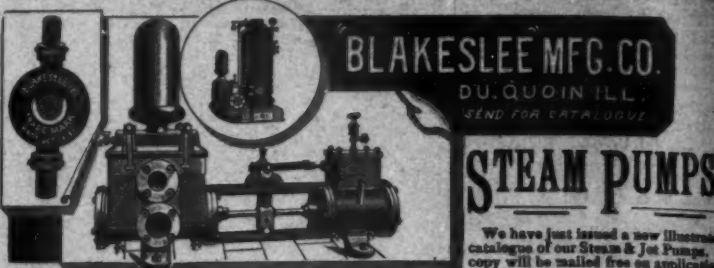
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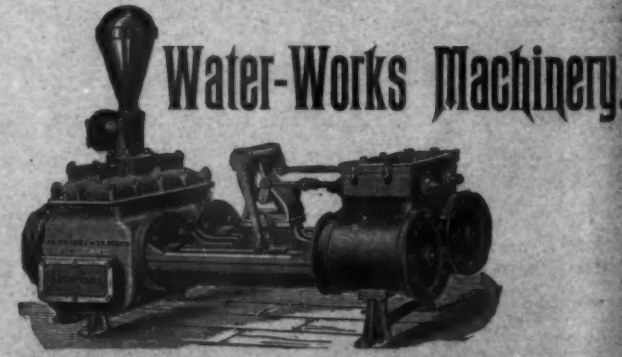
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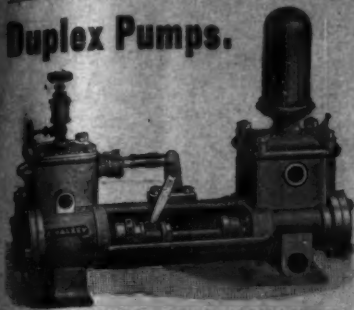


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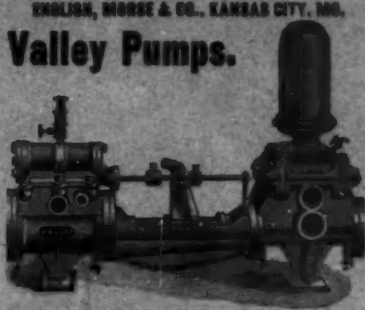


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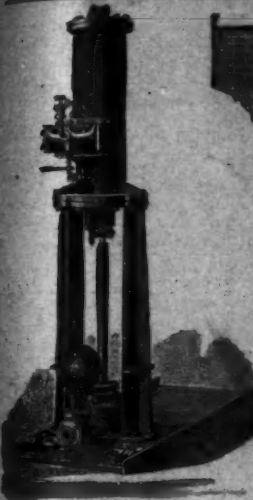


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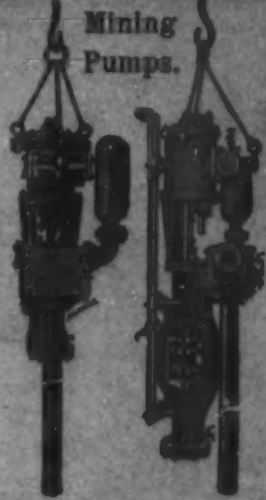
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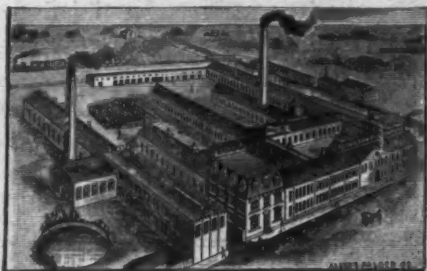
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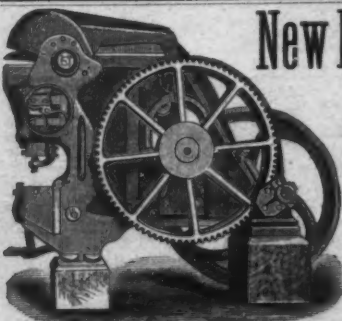
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